Southeastern Pennsylvania

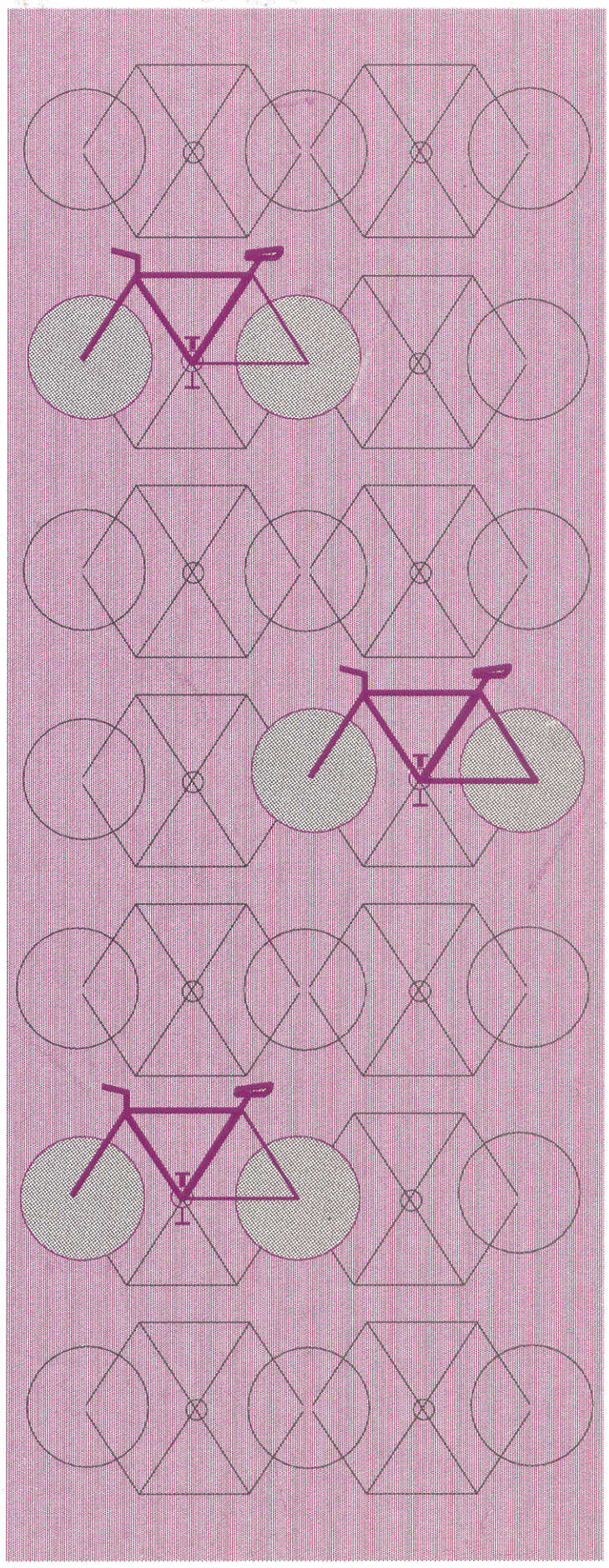
BICYCLE AND PEDESTRIAN MOBILITY PLAN

An Element of the DVRPC Year 2020 Plan

DIRECTION 2020

A Region on the Rise

Report 28



Delaware Valley Regional Planning Commission

DIRECTION 2020

SOUTHEASTERN PENNSYLVANIA BICYCLE AND PEDESTRIAN MOBILITY PLAN

prepared by:

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Created in 1965, the Delaware Valley Regional Planning Commission (DVRPC) is an interstate, intercounty and intercity agency which provides continuing, comprehensive and coordinated planning for the orderly growth and development of the Delaware Valley region. The region includes Bucks, Chester, Delaware, and Montgomery counties as well as the City of Philadelphia in Pennsylvania and Burlington, Camden, Gloucester, and Mercer counties in New Jersey. The Commission is an advisory agency which divides its planning and service functions between the Office of the Executive Director, the Office of Public Affairs, and four line Divisions: Transportation Planning, Regional Planning, Regional Information Services Center, and Finance and Administration. DVRPC's mission for the 1990s is to emphasize technical assistance and services and to conduct high priority studies for member state and local governments, while determining and meeting the needs of the private sector.

The DVRPC logo is adapted from the official seal of the Commission and is designed as a stylized image of the Delaware Valley. The outer ring symbolizes the region as a whole while the diagonal bar signifies the Delaware River flowing through it. The two adjoining crescents represent the Commonwealth of Pennsylvania and the State of New Jersey. The logo combines these elements to depict the areas served by DVRPC.

DELAWARE VALLEY REGIONAL PLANNING COMMISSION

Publication Abstract

TITLE	Date Published: September 1995
Southeastern Pennsylvania Bicycle and Pedestrian Mobility Plan	**Publication No. 95009** **Direction 2020 Report No. 28**

Geographic Area Covered: Five-county southeastern Pennsylvania region: Bucks, Chester, Delaware, Montgomery and Philadelphia.

Key Words: Bicycle, Pedestrian, Mobility, ISTEA, Non-Motorized Transportation, Direction 2020, Intermodal, Corridors, Off-Road Facilities, State Routes, Implementation.

ABSTRACT

This report provides the bicycle and pedestrian component of Direction 2020, the DVRPC's long range transportation and land use plan for the Delaware Valley. The Bicycle and Pedestrian Mobility Plan covers the five counties located in southeastern Pennsylvania. The plan contains information about prevailing policies towards bicycles. It also provides information about current bicycle and pedestrian use, an inventory of existing and proposed bicycle and pedestrian facilities, and goals and objectives for improving bicycle and pedestrian conditions. This information provides the foundation for creating the Proposed Bicycle Network for Southeastern Pennsylvania.

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EXECUTIVE SUMMARY

The Delaware Valley Regional Planning Commission (DVRPC) has long recognized that an effective transportation system cannot rely exclusively on the single occupancy vehicle. Too many automobiles result in traffic congestion, environmental pollution, and dependence on uncertain energy reserves, problems which can be alleviated through effective transportation planning. Within southeastern Pennsylvania, traffic congestion increases the journey-to-work time and generates unhealthy levels of ozone, carbon monoxide and particulates, which have caused the area to be designated a non-attainment area under the Clean Air Act. Despite attempts to improve the efficiency of public transportation and to promote van and car pooling in the Delaware Valley Region, reliance on the automobile for commuting has increased more than 8 percent between 1980 and 1990.

One important element of DVRPC's multi-modal transportation planning is the Bicycle and Pedestrian Mobility Plan for Southeastern Pennsylvania. This effort is part of Direction 2020, the Commission's long range land use and transportation plan for the Delaware Valley. The pedestrian element of the Plan addresses general concerns related to pedestrian access. The bicycle component uses existing and proposed bicycle facilities to develop a regional bicycle network.

To date, a comprehensive bicycle policy for southeastern Pennsylvania has not been available. Like most urban areas, the Delaware Valley has pursued a transportation policy that emphasizes the automobile and public transportation. The traditional view has been that bicyclists are generally recreational riders and would share city streets with automobile users. Dedicated bicycle facilities and access for bicycle commuters have been very limited.

This plan contains information about prevailing policies towards bicycles that have been adopted on the federal, state, county and local level. In addition, existing bicycle facilities - including trails, routes, and lanes - have been inventoried to determine how extensive and comprehensive the current system is. Proposed trails, routes and lanes, as well as existing and abandoned rail lines, have also been included in the inventory. Existing routes and trails were examined in light of their location to transit stations, major employment centers, universities, and parks in order to determine the possibility for creating future connections.

This information provided the foundation for developing a bicycle network for the region. The network represents a total of almost 2,100 miles of bicycle facilities, including almost 1,400 miles of specific project improvements along state, county, and local rights-of-way; more than 350 miles of specific, dedicated off-road facilities; and an additional 334 miles

along designated corridors where the exact route is still to be defined. Once constructed, the network will provide a viable transportation alternative to the automobile. The goals, objectives, and strategies that are part of this plan identify specific actions that can be undertaken to improve bicycle and pedestrian mobility in southeastern Pennsylvania.

CHAPTER I

BICYCLE AND PEDESTRIAN PLANNING AND RECENT LEGISLATION

Bicycles have traditionally been used, both in the United States and the Delaware Valley, for recreation. Over the past twenty years, the increase in the bicycle's popularity has coincided with the public's recognition of the health and fitness benefits it provides. However, the public's acceptance of the bicycle as an alternative to the automobile is evolving more slowly. Two recent pieces of federal legislation may facilitate the development of the bicycle as an alternative transportation mode. These landmark pieces of legislation - the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) and the Clean Air Act Amendments of 1990 (CAAA) - will have a dramatic impact on the way transportation plans, policies, and programs are crafted. ISTEA provides the mandate and funding opportunities to plan for biking and walking as transportation options; the CAAA delegate the responsibility to the region to develop innovative transportation strategies to reduce dependence on automobiles and improve air quality.

This chapter is devoted to a review of the impact that ISTEA and the CAAA will have on bicycle and pedestrian planning. For the reader interested in using ISTEA funds to develop a bicycle facility project, a brief digression into the purpose and mechanics of the Transportation Improvement Program (TIP) is included.

ISTEA

Historically, the vision driving federal transportation policy has been the creation of a highway network connecting cities across the United States. ISTEA represents a major revision of federal transportation policy and establishes a new vision for surface transportation. The purpose of ISTEA is "to develop a National Intermodal Transportation System that is economically efficient, environmentally sound, provides the foundation for the Nation to compete in the global economy and will move people and goods in an energy efficient manner.[1]" ISTEA requires every state and metropolitan planning organization (MPO), such as the Delaware Valley Regional Planning Commission (DVRPC), to prepare long range transportation plans, with an element addressing bicycling and walking. Moreover, most of the major sections of the ISTEA legislation explicitly urge states and localities to fund bicycle projects and programs. ISTEA will provide over $155 billion nationwide between 1992 and 1997. Approximately $7.2 billion will be available to Pennsylvania.

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[1] U.S. Department of Transportation, "Intermodal Surface Transportation Efficiency Act of 1991, A Summary," page 5.

The DVRPC is the MPO for the Delaware Valley Region, an area which includes five counties in Pennsylvania and four in New Jersey (Figure I). As required by ISTEA, the DVRPC is charged with developing a transportation plan for the region. The DVRPC is in the process of preparing DIRECTION 2020, the Commission's long range transportation and land use plan for the year 2020. A bicycle and pedestrian component for southeastern Pennsylvania will be one element of this plan. A companion plan for the four New Jersey counties of the region will also be prepared. The policies contained in the long range bicycle and pedestrian plan will set parameters for the projects selected in the region's Transportation Improvement Program (TIP) which functions as the annual transportation capital plan for projects.

TRANSPORTATION IMPROVEMENT PROGRAM (TIP)

The TIP document, compiled annually, lists all federally funded transportation projects and projects scheduled to begin construction in the Delaware Valley in the next four to five years. The TIP represents a consensus among state and local officials as to which regional improvements should be made. The process is designed to ensure that projects are consistent with national, state, regional, county and municipal policies.

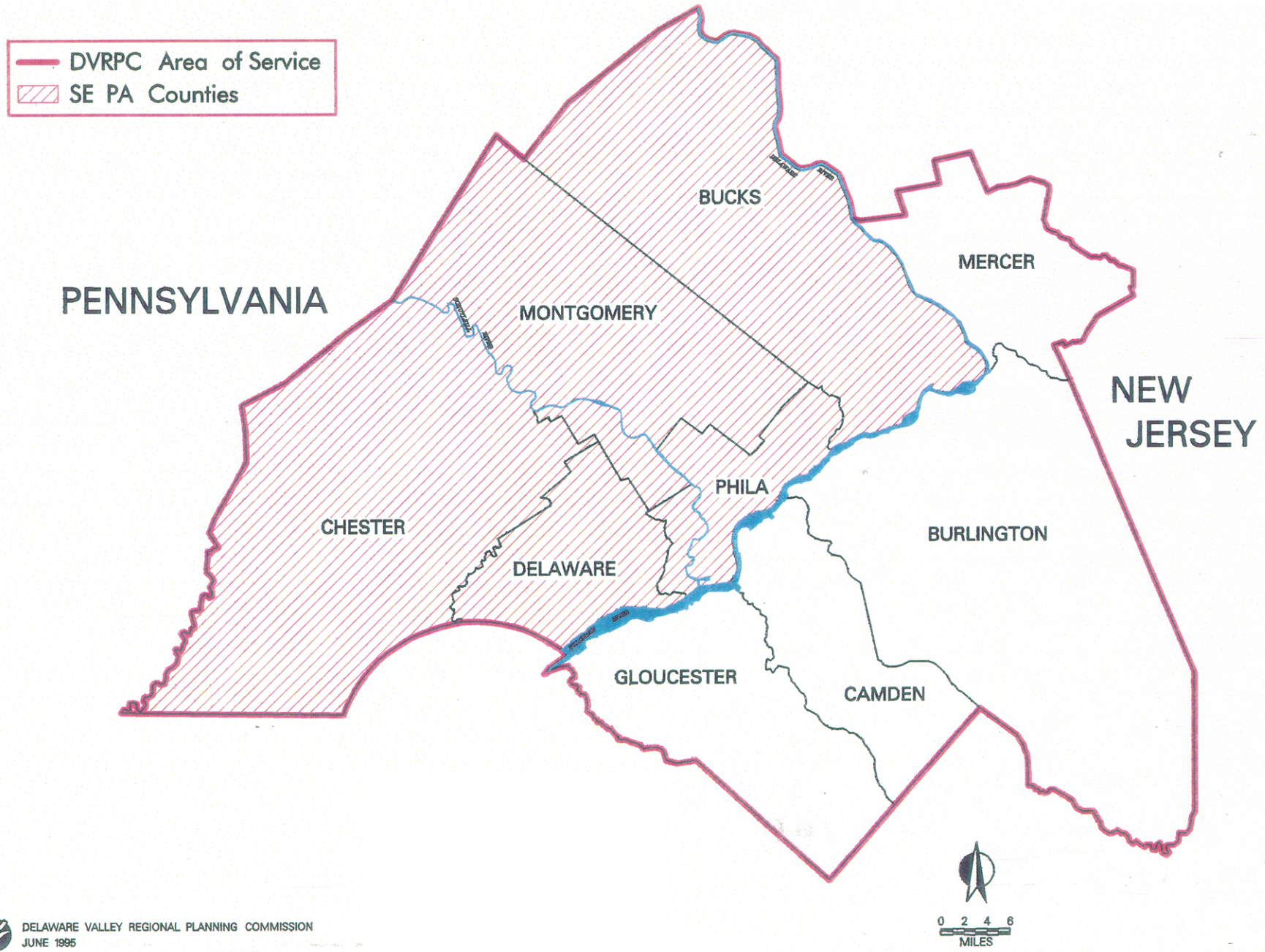
Projects contained in the TIP were initially conceived in the state, regional and local planning processes. To be considered for inclusion, strong sponsor commitment from a member agency is required. Each member government develops project candidates. Public participation is an integral part of this process. In southeastern Pennsylvania all projects are selected by the MPO in conjunction with the state.

During the 1992-1993 TIP process, nine bicycle projects were selected for inclusion in the TIP. During the 1993-1994 TIP process, six bicycle/pedestrian projects were programmed on the TIP. While no federal mandate requires that a specific number of bicycle projects be funded, ISTEA clearly encourages that funding be used for bicycle projects. Only projects appearing on the TIP are eligible for ISTEA funding.

Table I contains a listing of the FY 1993 and 1994 bicycle and pedestrian project applications submitted for funding consideration through the Transportation Enhancement program. Only starred projects have been programmed on the TIP. Bicycle and pedestrian projects totalling more than $20 million are programmed to receive funding on the 1995 - 1998 TIP. The list is important in that it provides insight into what local municipalities envision for their communities. Table II provides a description of the projects that have been approved for Transportation Enhancement funding pending the applicant's compliance with match provisions and other funding requirements. Table III provides a description of those projects given preliminary approval for funding through the Congestion Mitigation and Air Quality (CMAQ) process.

FIGURE 1

SE PA BICYCLE AND PEDESTRIAN MOBILITY PLAN



DELAWARE VALLEY REGIONAL PLANNING COMMISSION
JUNE 1995

TABLE I
FY 1993 AND 1994: BICYCLE AND PEDESTRIAN TRANSPORTATION ENHANCEMENT APPLICATIONS

COUNTY	PROJECT NAME	LOCATION	TOTAL COST OF THIS PHASE
Bucks	Delaware River Biking Trail	Bensalem	$15,000
Bucks	Central Park Walkways & Bike Paths along Hulmeville Rd.	Bensalem	$119,700
Bucks	Bristol Spurline Park Extension	Bristol	$500,000
Bucks	Bicycle and Jogging Trails	Bristol	$85,020
Bucks *	Historic Delaware Canal Improvements	Bristol	$380,000
Bucks *	Ped & Bike Access through Historic Buckingham Village	Buckingham	$258,000
Bucks	Intermunicipal Pedestrian Walkway	Doylestown	$920,000
Bucks	***Town Gateway Path***	***Doylestown***	***$372,000***
Bucks	New Falls Road Bikeway	Middletown	$71,000
Bucks	Village Road Bikeway	Middletown	$61,506
Bucks	***Cobalt Quincy Walk***	***Middletown***	***$100,910***
***Bucks** *	***Village Road Bikeway***	***Middletown***	***$52,000***
Bucks	Bicycle & Pedestrian Trails	Milford	$65,500
Bucks	Peace Valley Park - Bike Path (South Shore)	New Britian	$850,000
Bucks	Peace Valley Park - Bike Path (North Shore)	New Britian	$1,659,000
Bucks	Schofield Ford Covered Bridge Reconstruction	Newtown	$450,000
***Bucks** *	***Newtown Trails #1***	***Newtown***	***$507,680***
Bucks	***Newtown Trails #2***	***Newtown***	***$570,720***
Bucks	***SFB Committee, Schofield Bridge***	***Newtown***	***$150,000***
Bucks +	Newtown Greenway	Newtown to Fox Chase	$1,050,000
Bucks	Coventry Trail Extension	Perkasie	$15,000
Bucks	Point Pleasant Byram Walking Bridge	Tinicum	$1,750,000
Bucks	Eight Arch Bridge Restoration	Warwick	$60,000
***Chester** *	***Chester Valley Trail***	***Intermunicipal***	***$1,000,000***
Chester	***Morrisville Line***	***Intermunicipal***	***$1,220,000***
Chester	***Struble Trail***	***Intermunicipal***	***$232,000***
Chester	Schuylkill River Trail	Intermunicipal	$950,000
Chester	Struble Trail Extension	Intermunicipal	$1,300,000
Chester	Hibernia Trail	Intermunicipal	$1,900,000
Chester *	Chester Valley Trail	Intermunicipal	$1,400,000
Chester	St. Peter's Branch Trail	Intermunicipal	$650,000
Chester	Morrisville Branch Acquisition	Intermunicipal	$100,000
Chester	***Brandywine Trail***	***Downingtown***	***$46,800***
Chester	Mortonville Bridge Enhancement	East Fallowfield	$100,000
Chester	***East Vincent Greenway***	***East Vincent***	***$209,600***
Chester	Southern Trail Network	London Britian	$458,000
Chester *	County Bridge #28	New London	$735,000
Chester	***Loop Trail***	***Parkesburg***	***$157,000***
Chester	Model Trail and Scenic Easement Acquisition Project	Pocopson & E. Bradford	$250,000
Chester	***Uwchlan Trails***	***Uwchlan***	***$352,000***
Chester	Goose Creek Greenway	West Chester	$100,000
Chester	***Pedestrian Linkage***	***West Grove***	***$118,000***
Delaware	Parking Lot (Racks)	Intermunicipal	$327,000
Delaware	***Eagle Field***	***Aston***	***$46,412***
Delaware	***Pedestrian and Bike Network***	***Radnor***	***$342,000***
Delaware	***Friends of Radnor Trails, P&W Bike/Ped Trail***	***Radnor***	***$428,000***
Delaware	Leiper Smedley Trail	Springfield	$3,596
Delaware	Henry Johnson Park	Trainer	$152,000

TABLE I: continued

COUNTY	PROJECT NAME	LOCATION	TOTAL COST OF THIS PHASE
Montgomery *	***Schuylkill Trail***	***Intermunicipal***	***$960,000***
Montgomery	Spring Valley Trail System	Intermunicipal	$15,000
Montgomery	***Easton Road Revitalization***	***Abington***	***$1,293,126***
Montgomery	***Alverthorpe/Lorimer***	***Abington***	***$268,400***
Montgomery	***Fairway Improvements***	***Abington***	***$80,000***
Montgomery	***Old York Road***	***Abington***	***$116,800***
Montgomery	School Road Park Trail	Hatfield	$15,000
Montgomery	Pennypack Wilderness Trail Improvement	Huntington Valley	$15,000
Montgomery	***Bethlehem Pike***	***Lower Gwynedd***	***$400,000***
Montgomery	Greenways Network	Lower Gwynedd	$22,374
Montgomery	Perkiomen Bikeway	Pennsburg	$1,750,000
Montgomery	***Bicentennial Park Walkway***	***Plymouth***	***$13,265***
Montgomery	Bicentennial Park Walkway Improvements	Plymouth	$22,675
Montgomery	***Riverfront Park***	***Pottstown***	***$1,000,000***
Montgomery	Riverfront Park Extension - West	Pottstown	$1,250,000
Montgomery	Pedestrian / Bicycle Bridge	Pottstown	$1,500,000
Montgomery	***Towamencin Trail***	***Towamencin***	***$608,000***
Montgomery	***202 Corridor Linkage***	***Upper Merion***	***$304,896***
Montgomery	***Industrial Park***	***Upper Merion***	***$1,932,086***
Montgomery	***North Linkages***	***Upper Merion***	***$238,966***
Montgomery	***South Linkages***	***Upper Merion***	***$250,758***
Montgomery	Valley Creek Trail	Valley Forge	$14,800
Philadelphia	Bicycle Access/Paths		$500,000
Philadelphia *	Schuylkill River Park Bikeway and Pedestrian Trail	Center City	$1,995,945
Philadelphia	Schuylkill River Pedestrian and Bicycle Access	Center City	$660,000
Philadelphia	***Eakins Oval Access***	***Center City***	***$960,000***
Philadelphia	***Logan Square Phase II***	***Center City***	***$1,012,000***
Philadelphia *	***Schuylkill River Bike/Ped Trail***	***Center City***	***$1,596,756***
Philadelphia *	Logan Circle	Center City	$570,000
Philadelphia	Strawberry Mansion Bridge	North Phila	$600,000
Philadelphia *	Enhancements to Fairmount Park Bikeway and Railtrail	Northwest Phila	$1,000,000
Philadelphia	Wissahickon Park Pedestrian Path	Northwest Phila	$500,000
Philadelphia	***Ben Franklin Bridge***	***Old City***	***$240,000***
Philadelphia	***West Bank Greenway***	***University City***	***$780,000***
Philadelphia	***Zoo Street Scape***	***West Phila***	***$640,000***
Philadelphia	***Cobbs Creek Bikeway***	***West & SW Phila***	***$1,584,000***

KEY: 1993 Application
1994 Application
+ NOT ENDORSED BY BUCKS COUNTY
* Programmed on TIP

TABLE II
TE BICYCLE AND PEDESTRIAN PROJECTS PROGRAMMED ON THE FY 1995 TIP

	Project	County	Description
1	Pedestrian/Bicycle Access through Historic Buckingham Village ($258,000)	Bucks County	This project will provide residents with safer access to many locations throughout the Village by constructing a pedestrian/bike path along Routes 202 and 413 to Route 263.
2.	Delaware Canal Improvements (Bristol) ($380,000)	Bucks County	The improvements are designed to restore and revitalize the trail and reestablish it as a pedestrian link and a cultural resource for the region.
3.	Newtown Trails 1 (Newtown) ($507,000)	Bucks County	A 5 foot wide, 4.36 mile trail will be constructed connecting Tyler State Park, Bucks County CC, residential developments, Council Rock HS, industrial parks, and shopping districts to Core Creek Park
4	Village Road Bikeway (Middletown) ($61,506)	Bucks County	An 8 foot pathway will be constructed for 0.8 mile along Village Rd and will connect Core Creek Park with the township line.
5.	Chester Valley Trail ($1,400,000)	Chester County	The project proposes to convert portions of a former rail line to a pedestrian/bike trail which will connect Valley Forge National Historic Park to the Downingtown area
6.	County Bridge #28 ($735,000)	Chester County	The covered bridge will be rehabilitated to accommodate cars, bicycles and pedestrians.
7.	Chester Valley Trail 2 (Chester County) ($1,000,000)	Chester County	This is the second phase of a five phase project which would convert a former rail line (not technically abandoned) into a multi-purpose trail extending from Downingtown to Valley Forge with a connection into Upper Merion and into the National Historic Park.
8.	Schuylkill Trail (Montgomery County) ($960,000)	Montgomery County	Included in this project are: 10 ft., 6.5 mile extension of existing trail; 2.1 miles of auxiliary trails; construction of 2 parking areas; and installation of bike racks/lockers at 3 locations.
9.	Enhancements to Fairmount Park Bikeway and Rail trail ($1,000,000)	Philadelphia County	The planned improvements are designed to accommodate both commuters and recreational cyclists.
10.	Logan Circle ($570,000)	Philadelphia County	Improvements for pedestrians and bicyclists and landscaping around the circle area are slated for this project.
11.	Schuylkill River Pedestrian and Bike Trail ($1,995,945)	Philadelphia County	This proposed link will extend from the Water Works in Fairmount Park along the east bank of the Schuylkill River to Spruce Street. It will join the existing Schuylkill River Park and link with the Spruce/Pine Street pair of east-west streets favored by bicyclists. This path will serve as the connector of the Philadelphia - Valley Forge Trail to Center City.
12.	Schuylkill River Bike/Ped Trail (Schuylkill River Development Corp) ($1,596,756)	Philadelphia County	This project will include: construction of a bridge and wheel chair ramp over train tracks; security lighting; bicycle racks; landscaping; and pedestrian scale lighting.

TABLE III

CMAQ FUNDED BICYCLE AND PEDESTRIAN PROJECTS PROGRAMMED ON THE FY 1995 TIP

	Project/Total Cost	County	Description
1	Paoli Pike Bikeway ($275,000)	Chester	This project includes the construction of a 4 mile bikeway along Paoli Pike in East and West Goshen Twps.
2.	Concord Road Sidewalk Improvements ($496,000)	Delaware	A pedestrian/bike path will be constructed along one side of Concord Rd. for about 3 miles, connecting to a new pedestrian crossing at the Concord, Pennell and Knowlton intersection. Also, 30 benches will be installed.
3.	P & W Bicycle/Pedestrian Trail ($700,000)	Delaware	A 2 2 mile bike/pedestrian trail will be constructed along the abandoned Philadelphia and Western RR in Radnor Twp.
4.	Plymouth Trail ($1,060,000)	Montgomery	Acquisition and development is proposed for a 9 mile commuter and multipurpose recreational trail from the Schuylkill Trail in Conshohocken to the Ft. Washington Office Center This trail will provide a direct link to the Ft Washington Train Station and other office and industrial parks along the route. This project is part of a larger effort to provide a cross-county trail from Chester County to Bucks County.
5	Chester Valley Trail Extension ($1,700,000)	Montgomery Chester	This is a planned 3.5 mile extension of the paved Chester Valley Trail (a TE-funded project). This trail will connect to the Hughes Park Train Station along the Norristown High Speed Line. Also, the installation of bike lockers at the train station and at S. Gulph Rd near the King of Prussia shopping malls is planned This project is part of a larger effort to provide a cross-county trail from Chester County to Bucks County.
6.	Betzwood Bridge Bicycle/Pedestrian Trail ($1,000,000)	Montgomery	This project proposes to increase the width of the replacement bridge (currently in design stages) to accommodate bike and pedestrian movement. Also, a trail will be constructed from the Schuylkill Trail to the new bridge and from the bridge to Valley Forge National Historic Park.
7	Cobbs Creek Bikeway ($1,981,000)	Philadelphia	This project includes the construction of a 10.2 mile bikeway within the city limits from City Line Av. to PA Route 291 through city parkland and along city streets. It will connect to important commercial, transportation and recreational areas.
8.	Philadelphia Bicycle Network Program ($3,700,000)	Philadelphia	The goals of this project are to: identify bicycle traffic generators; perform traffic counts; review travel patterns, analyze routes; provide parking and storage; disseminate information and promote awareness; develop a route network; and, design and construct a city-wide network of routes. Over 225 miles of network have been proposed.
9.	Westbank Greenway ($980,000)	Philadelphia	This project will provide safe recreational and commuter travel from Center City and West Philadelphia to the Fairmount Park Bikeways by: rebuilding existing sidewalks for pedestrians and bicyclists; rebuilding a fence and stone retaining wall; removing a billboard; landscaping; planting trees along the street; installing street lighting and signage; widening the Spring Garden Street bridge sidewalk; and, constructing a ramp from the Spring Garden Street bridge to West River Drive.
10.	County Bike Outreach ($268,000)	Regionwide	This project plans to promote comprehensive bike improvements region wide through public outreach, advocacy and information distribution.

FUNDING UNDER ISTEA

There are a variety of funding sources available under ISTEA. All of the major ISTEA funding streams include bicycle and walking facilities and programs as eligible activities. The major funding streams are reviewed below.

Surface Transportation Program Funds (STP): STP funds may be used by the states and localities for any road or bridge project not classified as local or rural minor collectors. In addition, STP funds can be used either to fund projects related to safe bicycle use - such as brochures, public service announcements and bicycle maps - or for the construction of bicycle transportation facilities and pedestrian walkways. Any bicycle project proposed under this funding stream must be primarily a transportation project. Ten percent of all STP funds must be set aside for Transportation Enhancement (TE) Projects. Improvements which enhance the environs of the transportation network are included in this category. Enhancements financed under STP funds are not required to have demonstrable impacts on traffic flow or transit operations. These improvements should, however, sensitize people to environmental and social concerns and possess ancillary benefits that will encourage desirable travel patterns.

National Highway System Funds (NHS): These funds can be used for major regional roads, including Interstate routes, urban arterials and other principal highways. NHS funds can also be used to construct bicycle and pedestrian transportation facilities and pedestrian walkways on land adjacent to any highway on the National Highway System. The facility, however, must be primarily for transportation purposes.

Congestion Mitigation Air Quality (CMAQ): The purpose of this program is to fund projects or programs that will contribute to the attainment of the National Ambient Air Quality Standards (NAAQS). Projects which result in tangible reductions in CO_2 and ozone precursor emissions and can be completed within the time frame for attainment as required by the CAAA are encouraged. Bicycle and pedestrian facility projects and programs may be appropriate projects under CMAQ. Projects submitted under this funding stream must document their air quality benefit and must contribute to emissions reductions necessary to bring the region into attainment for air quality.

Federal Lands Highway Funds: These funds may be used in conjunction with roads, highways and parkways on federal lands and may also be used to build bicycle facilities and pedestrian walkways. These funds have also been earmarked for bicycle projects with a transportation orientation.

Scenic Byways Program Funds: These funds can be used for the planning, design and development of state scenic byway programs, including projects to construct bicycle and pedestrian facilities along designated scenic highways.

The above-mentioned projects require a 20 percent state or local match, except for

Federal Lands projects which are 100 percent federally funded.

National Recreation Trails Fund (Symms Fund): This is the only funding source under ISTEA that provides funding for recreational trails designed to benefit bicyclists, pedestrians and other nonmotorized transportation users. Projects must be consistent with the State-wide Comprehensive Outdoor Recreation Plan. The Pennsylvania Department of Conservation and Natural Resources administers select projects for this program. Funds can be used for the following: constructing urban trail linkages; maintaining existing trails; restoring damaged trails; developing trail side and trail head facilities; constructing new trails; and conducting environmental protection and safety programs. Funding for these projects is appropriated on an annual basis. In 1993, the Andorra Natural Area project and the Lower Gwynedd Access Trail were approved for funding in southeastern Pennsylvania. In fact, 1993 was the last year in which monies were appropriated for the National Recreation Trails Fund.

CLEAN AIR ACT AMENDMENTS

The Clean Air Act Amendments of 1990 (CAAA) will significantly affect bicycle planning in the region. The CAAA establish an aggressive timetable and program for improving the nation's air quality. Among other air quality problems, the amendments address the urban air pollution problems of ozone, carbon monoxide and particulate matter. The Act identifies six non-attainment categories ranging from marginal to extreme and air quality within specific areas is characterized by one of the six categories. The more severe the rating, the more controls the area is required to implement to improve air quality. The Philadelphia Consolidated Metropolitan Statistical Area (CMSA) includes 14 counties and four states and has been characterized as a severe ozone non-attainment area and must attain an acceptable air quality standard by the year 2005. The CAAA recognize highway sources of emissions as significant and their reduction as an important solution to the air quality problem.

Pennsylvania, through its State Implementation Plan (SIP), is responsible for developing and implementing steps to improve air quality. The purpose of the SIP is to obtain National Ambient Air Quality Standards (NAAQS). One portion of the SIP contains Transportation Control Measures (TCMs). TCMs are measures specifically designed to improve air quality through transportation improvements. Currently, the applicable SIP for Pennsylvania is dated 1982. The FY 1994 TIP provides for the implementation of outstanding TCMs found in the 1982 SIP. New TCMs are now under study by DVRPC and will ultimately be included in Pennsylvania's SIP. Goals for the TCMs have been identified and include provisions for bicycle facilities, although specific bicycle projects have not yet been identified. However, once selected they will appear in the SIPs and be added to the TIP. The most likely funding source for these projects will be CMAQ.

In December 1994, the DVRPC Board voted to approve 35 CMAQ funded projects in Philadelphia, Bucks, Chester, Delaware and Montgomery Counties. These projects were designed to ease traffic congestion and improve air quality in the five-county Philadelphia region and represent $35.4 million in federal funding The monies will be used to build bicycle and pedestrian pathways, improve road signals and encourage alternate fuel use, and promote transit use. Ten bicycle and pedestrian projects were funded. For a listing of CMAQ funded bicycle projects, please refer to Table III.

THE IMPACT OF ISTEA AND CAAA

ISTEA will have a profound impact on how state and local governments address transportation issues. The flexibility of funding under ISTEA will allow for the creation of a more balanced transportation system which will include considerations for bicycle and pedestrian activity. While funding is available for bicycle projects from other sources within the state including the Recreational Improvement and Rehabilitation Act Program, Land and Water Conservation Funds, Key 93, and Urban Parks and Recreation Restoration Program, these funds are specifically for recreational bicycle and pedestrian projects. Aspects of the CAAA which mandate improvements in air quality will further encourage development of alternative forms of transportation within the region.

CHAPTER II

CURRENT BICYCLE AND PEDESTRIAN COMMUTING

Bicycling is a nonpolluting, non fossil fuel consuming mode of transportation. While providing health and fitness benefits to the user, it is also an economical form of transportation. Although bicycle ridership has steadily increased over the past decade,[2] the bicycle is still used primarily for recreational purposes rather than to replace trips made by the automobile. Reducing dependence on and creating alternatives to the automobile is desirable for several reasons. First, bicycles used to replace the automobile for commuter or utilitarian transportation trips reduce air pollutants. Second, reducing motor vehicle congestion is a major public policy objective, and every decision to substitute other travel modes for the single occupant vehicle contributes to reducing congestion. Finally, bicycles offer mobility options for people who cannot afford automobiles.

This chapter explores current bicycle use and pedestrian commuting within southeastern Pennsylvania to shed light on the conditions and characteristics that influence a person's decision to commute by bicycle or on foot. Although the focus of this section is the bicycle as a transportation option for commuters, the potential use of bicycles is broad and includes recreational and other destinational trips such as shopping and personal business trips.

CURRENT BICYCLE USE

One of the few studies of bicycle usage in southeastern Pennsylvania was conducted in 1992 by a doctoral student at the University of Pennsylvania.[3] Data was collected by mail survey from the five counties located in southeastern Pennsylvania (Bucks, Chester, Delaware, Montgomery and Philadelphia). Representatives from area bicycle clubs, advocacy groups, and the general population were surveyed. The sample population contained 1,500 names. A total of 823 respondents returned the survey - a 55 percent response rate. A much higher percentage of surveys was received from the bicycle sample (36 percent for the general population and 64 percent for the bicycle sample). While the sample is small and may not be adequate to make generalizations about commuter characteristics, it does provide information about this population that has not previously been available.

Current bicycle use varied among club members, the Bicycle Coalition of the Delaware

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[2] Cathy Antonakos, "Environmental and Travel Preferences of Cyclists", pg. 2.

[3] Noland, Robert, "The Role of Risk in Policies to Promote Public Transportation," 1992.

Valley, and the general population (Table IV). Generally, area bicyclists use their bicycles for exercise or recreation. Bicycle club and coalition members were more likely to use their bicycles for varied purposes than were members of the general public.

TABLE IV
SOUTHEASTERN PENNSYLVANIA
CURRENT BICYCLE USE

	All Respondents	Club Sample	Coalition Sample	General Sample
Recreation	**87%**	88%	88%	82%
Commute to Work	**25%**	22%	48%	6%
Commute to School	**5%**	3%	11%	2%
Shopping	**20%**	17%	36%	13%
Touring	**51%**	59%	49%	11%
Visiting	**26%**	25%	37%	14%
Training	**27%**	35%	16%	—
Exercise	**79%**	88%	64%	52%
Total Respondents	**745**	498	146	101

Source: The Role of Risk in Policies to Promote Bicycle Transportation, Noland, Robert. 1992.

The majority of respondents from the bicycle club sample and the general sample indicated that the automobile was their primary mode of transportation (Table V). When researchers asked if the bicycle was used as a back up to their primary mode of transportation, 20 percent of the club/coalition sample indicated that they rely on the bicycle and a small percentage of the general population (three percent) indicated that they would rely on the bicycle.[4]

TABLE V
SOUTHEASTERN PENNSYLVANIA
PRIMARY TRANSPORTATION MODE USED FOR COMMUTER TRIPS

	Total	Bicycle Sample	General Sample
Car	**69%**	64%	87%
Bicycle	**13%**	17%	0%
Public Transit	**12%**	13%	10%
Walking	**5%**	6%	3%
Percentage	**100%**	100%	100%
Total Respondents	**823**	644	179

Source. The Role of Risk in Policies to Promote Bicycle Transportation, Noland.

[4] Noland, Robert, "The Role of Risk in Policies to Promote Public Transportation", 1992.

Respondents were also asked to state their reasons for not commuting by bicycle. The reasons provided are listed in Table VI.

TABLE VI
SOUTHEASTERN PENNSYLVANIA
REASONS GIVEN FOR NOT COMMUTING BY BICYCLE

	Total	Bicycle Sample	General Sample
Takes too long	**51%**	43%	79%
Arrive sweaty	**62%**	57%	75%
No bike parking	**20%**	18%	25%
Too much traffic	**60%**	56%	75%
Too dangerous	**53%**	47%	71%
No night biking	**41%**	39%	48%
Too tired	**19%**	11%	44%
Too cold	**36%**	29%	56%
Inclement weather	**75%**	72%	85%
Too many hills	**17%**	9%	46%
Too much crime	**18%**	17%	22%
Not physically capable	**6%**	2%	20%
Need to carry things	**49%**	45%	63%
Looks unprofessional	**6%**	4%	12%
Would never consider it	**12%**	5%	37%
Miscellaneous	**20%**	22%	13%
Total Respondents	**763**	584	179

Source: The Role of Risk in Policies to Promote Bicycle Transportation, Noland.

The most pervasive reason for not bicycling to work - cited by 72 percent of the bicycle sample and 85 percent of the public - was inclement weather. A large percentage (79 percent) of the general population also indicated that commuting by bicycle was too time consuming. A significant percentage (62 percent) of overall respondents reported that arriving to work sweaty prevented them from commuting by bicycle. Sixty percent of respondents felt that heavy traffic made it difficult to bicycle and 53 percent perceived bicycling as dangerous.

Only five percent of respondents from the bicycle sample indicated that they would never consider commuting by bicycle compared to 37 percent of the general population. It is interesting to note that when a similar question was asked on a survey administered to Davis, California residents, 37 percent of the respondents reported they would never commute by bicycle. Despite this apparent lack of enthusiasm toward bicycling, 25 percent of Davis' commuters currently commute by bicycle.

COMMUTING TRENDS

Between 1980 and 1990, the number of resident workers in southeastern Pennsylvania increased by 14 percent. Individual county changes in resident workers ranged from a five percent increase in Philadelphia to a 35 percent increase in Chester County (Table VII).

TABLE VII
RESIDENT WORKER GROWTH IN THE DELAWARE VALLEY REGION
1980 AND 1990

County by Residence	Resident Workers		
	1980	1990	% Change
Bucks	219,876	279,551	27%
Chester	145,120	195,507	35%
Delaware	241,314	261,607	8%
Montgomery	304,326	352,960	16%
PA Suburbs	**910,636**	**1,089,625**	**20%**
Philadelphia	608,391	641,577	5%
TOTAL	**1,519,027**	**1,731,202**	**14%**

Source: 1980 and 1990 U.S. Census.

As the number of resident workers increased during this ten year period, the percentage of workers driving alone increased at an even greater rate. In all counties, in both 1980 and 1990, "Drive Alone" commanded the largest share of the commuter population (Table VIII). During this ten-year period, the percentage of bicycle commuters and the percentage of people who walk to work has decreased slightly.

TABLE VIII
PERCENT DISTRIBUTION OF WORKERS BY MEANS OF TRANSPORTATION

County by Residence	Resident Workers		Drive Alone		Vanpool, Carpool		Public Trnsp.	
	1980	1990	1980	1990	1980	1990	1980	1990
Bucks	219,876	279,551	71.3%	80.6%	19.0%	10.9%	3.7%	2.8%
Chester	145,120	195,507	69 6	78.8	17.6	10.1	3.8	2.8
Delaware	241,314	261,607	60.9	70.9	18.4	12.1	12.9	9.2
Montgomery	304,326	352,960	68.9	78.9	16.7	10.0	6.3	4.1
Philadelphia	608,391	641,577	40.7	44.7	16.6	13.2	30.0	28.5
TOTAL	**1,519,027**	**1,731,202**	**56.8**	**65.3**	**17.3**	**11.6**	**16.2**	**13.6**

Continued

County by Residence	Bicycle		Walk		Other Means	
	1980	1990	1980	1990	1980	1990
Bucks	0.2%	0.2%	3.0%	2.4%	2.3%	3.0%
Chester	0.3	0.2	5.4	3.9	3.3	4.1
Delaware	0.3	0.2	5.4	4.8	2.0	2.7
Montgomery	0.4	0.2	5.1	3.3	2.6	3.4
Philadelphia	0.4	0.5	10.0	10.0	1.8	2.6
TOTAL	**0.3**	**0.3**	**6.4**	**6.1**	**2.2**	**3.0**

Source: 1980 and 1990 U.S. Census.

Moreover, between 1980 and 1990, the average travel time to work increased in all suburban counties, except for Delaware County (Table IX). In Philadelphia, the average travel time decreased by 2.4 minutes between 1980 and 1990. To some extent the decrease in suburban commuter bicyclists may be influenced by the increase in travel time. As workers travel longer distances, long distance commutes by bicycle may become more difficult.

TABLE IX
DISTRIBUTION OF WORKER TRIP BY TRAVEL TIME
(1980)

County by Residence	Share of Trips in Specified Time Range							
	<5	5-14	15-29	30-44	45-59	>60	Tot. Trips	Avg. Time
Bucks	2.9%	27.5%	37 2%	17 6%	7.0%	7.8%	215,433	24.0
Chester	3.7	29.9	36.7	16.6	7.0	6.2	141,664	22.3
Delaware	2.2	22.9	34.9	22.3	10.1	7.6	239,206	25.6
Montgomery	3.4	31.8	35.9	17.0	6.4	5.7	298,824	21 9
PA Suburbs	**3.0**	**28.1**	**36.0**	**18.5**	**7.6**	**6.8**	**895,127**	**23.5**
Philadelphia	1.8	15.5	31.8	26.7	12 2	12.1	599,745	29.8
Total	**2.5**	**23.0**	**34.3**	**21.8**	**9.4**	**8.9**	**1,494,872**	**26.0**

Source 1980 US Census

DISTRIBUTION OF WORKER TRIP BY TRAVEL TIME
(1990)

County by Residence	Share of Trips in Specified Time Range								
	<5	5-14	15-29	30-44	45-59	60-89	>90	Tot. Trips	Avg. Time
Bucks	3.0%	26 4%	35 7%	18.9%	8.4%	6.4%	1.2%	272,638	24.2
Chester	3.5	26 3	35 0	19.9	8.6	5.9	0 8	188,918	23.9
Delaware	2.7	23.2	35 3	23.2	10.3	4 7	0 5	256,319	24.5
Montgomery	3.3	28.6	35.8	19 7	7.9	4.3	0.5	342,665	22.5
PA Suburbs	**3.1**	**26.3**	**35.5**	**20.4**	**8.7**	**5.2**	**0.7**	**1,060,540**	**23.7**
Philadelphia	2.2	17.6	34.2	26.2	11 4	7.0	1.4	628,874	27.4
Total	**2.8**	**23.1**	**35.0**	**22.6**	**9.7**	**5.9**	**1.0**	**1,689,414**	**25.1**

Source. 1990 U.S. Census.

CURRENT PEDESTRIAN COMMUTING

All trips involve walking, regardless of their primary mode. In 1980, within southeastern Pennsylvania, 6.4 percent of all commuter trips were made primarily on foot. In 1990, this percentage decreased to 6.1 percent, representing approximately 10,500 walkers. Within the individual counties in 1990, commuter pedestrian trips ranged from a high of 10.0 percent in Philadelphia to a low of 2.4 percent in Bucks County (see Table VIII).

Pedestrian trips to school account for one-third of all pedestrian trips in the United States. Walking for shopping and personal business is a function of land patterns and can range from three percent for a typical suburban shopping center to as much as 90 percent in very dense urban areas. (NJ DOT Pedestrian Compatible Roadways - Planning and Design Guidelines, December 1993) In general, pedestrian trips are higher within cities due to higher densities, compact land uses and the greater availability of pedestrian facilities.

According to the Federal Highway Administration's National Bicycling and Walking Study, walkers are largely motivated by exercise and enjoyment. Distance is one of the most common cited reasons for not walking. Other factors include: the hassle of carrying things, time constraints and fear of crime. The Seattle Bicycling and Walking Survey concluded that improvements in walking facilities would change the preference of many people in favor of walking. (U.S. DOT FHA, National Bicycling and Walking Study: Case Study #1)

IMPEDIMENTS TO PEDESTRIAN USE

To facilitate pedestrian activity, the built environment must encourage walking. This means that planning and design decisions must take pedestrians into consideration. Some of the more common problems related to pedestrian facilities, as identified by the New Jersey Department of Transportation in their statewide analysis of bicycling and pedestrian activity are listed below:

1. Difficulty in crossing wide arterial streets, especially undivided arterials.
2. Difficulty in crossing highways with two way left turn lanes.
3. Inadequate or nonexistent pedestrian facilities along roadways.
4. Narrow bridges that do not allow pedestrian access.
5. Excessive traffic speeds in residential and commercial areas.
6. Safety/convenience of walking areas with many poorly channelized driveways.
7. Difficult and hazardous pedestrian movement through interchange areas.
8. Missing sidewalk links.
9. Obstructions in the sidewalk.
10. Security problems on certain isolated pedestrian pathways.
11. No accommodations for pedestrians at some suburban signals.
12. Minimum pedestrian signal clearance time that is inadequate to accommodate slow moving pedestrians.
13. Pedestrians who do not obey signal indicators.
14. Improper application of crosswalk markings.
15. Open parking areas that do not encourage disciplined traffic flow, making pedestrian movement hazardous.
16. Inadequate lighting along pedestrian routes and at crossing points.
17. General lack of consideration of pedestrians by drivers.

18. Lack of coordination and continuity in pedestrian facilities.
19. Suburban land use patterns that discourage pedestrian travel.
20. Lack of organized groups that address pedestrian needs.

Because of the paucity of data on walking habits and walking statistics in general, it is difficult to assess the extent to which such improvements would increase pedestrian activity in southeastern Pennsylvania. However, most of the impediments listed above are common, and many are widespread, in southeastern Pennsylvania. These impediments and ways to correct and resolve them are discussed in more detail within the Goals, Objectives and Strategies section of this study.

BICYCLE COMMUTER CHARACTERISTICS

1990 U.S. Census information provides insights into the characteristics of people who commute by bicycle. Bicycle commuters are fairly evenly distributed between males and females; however, females are slightly more likely to bicycle to work than males (Figure II).

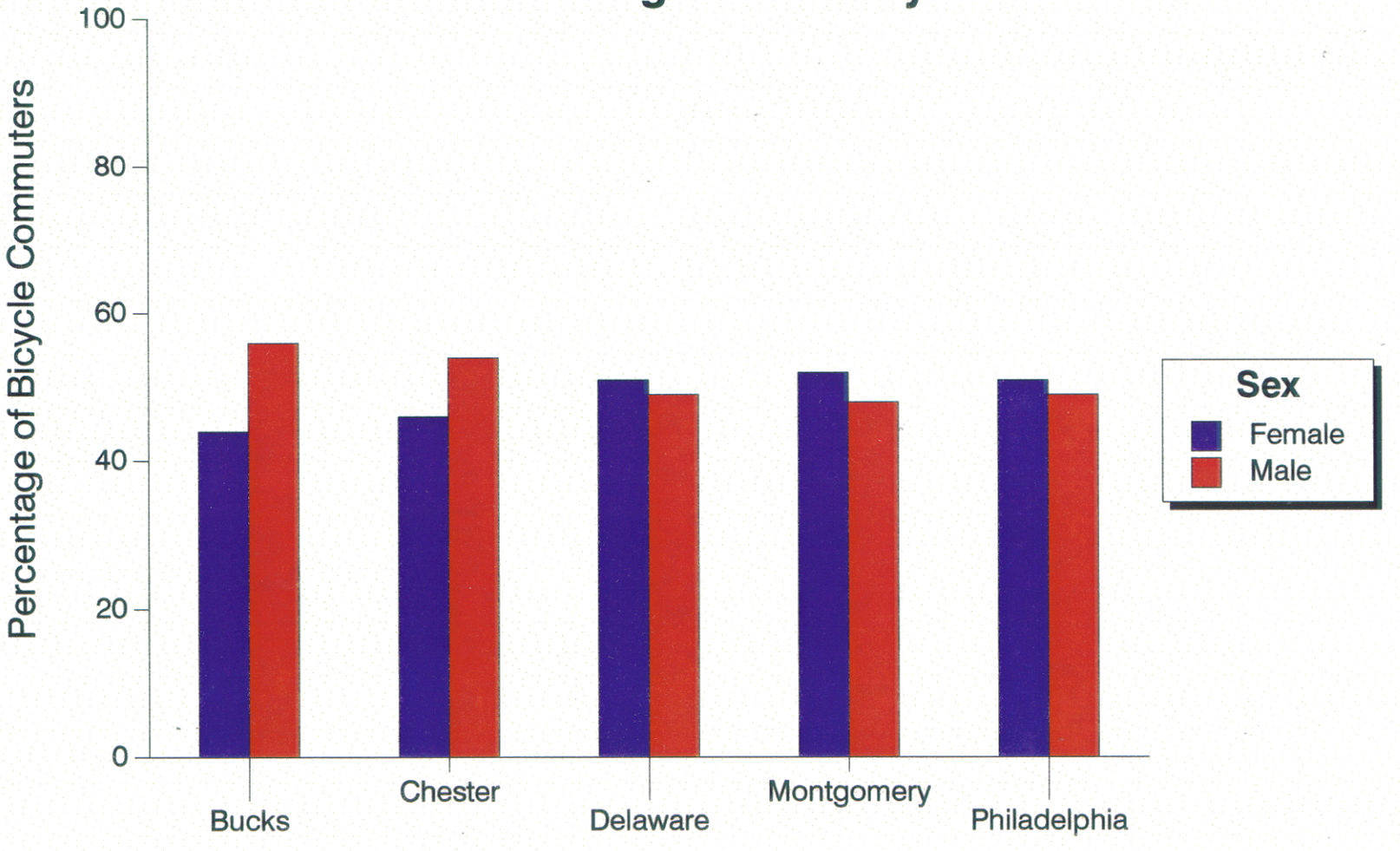
Incomes of bicycle commuters are concentrated along the lowest end of the income spectrum. In 1990, the highest percentage of bicycle commuters reported incomes of less than $5,000 (Figure III). As incomes increased, the percentage of commuter bicyclists decreased. This is true across all counties. These results are consistent with those of a 1991 Harris Poll[5] that revealed that bicycle commuters were most likely to report incomes of $7,500 or less.

Census information does not provide information about the distribution of bicycle commuters by age. Information about age distribution of bicyclist, in general, is limited. On the national level, results from the 1991 Harris Poll reveal that "age is the most significant demographic variable" in determining whether a person will bicycle to work. People under 30 years of age are more likely to bicycle than those over age 30 (Table X).

[5] Harris Poll, 1991.

Figure II

Bicycle to Work by Sex
Southeastern Pennsylvania
As Percentage of All Bicyclists

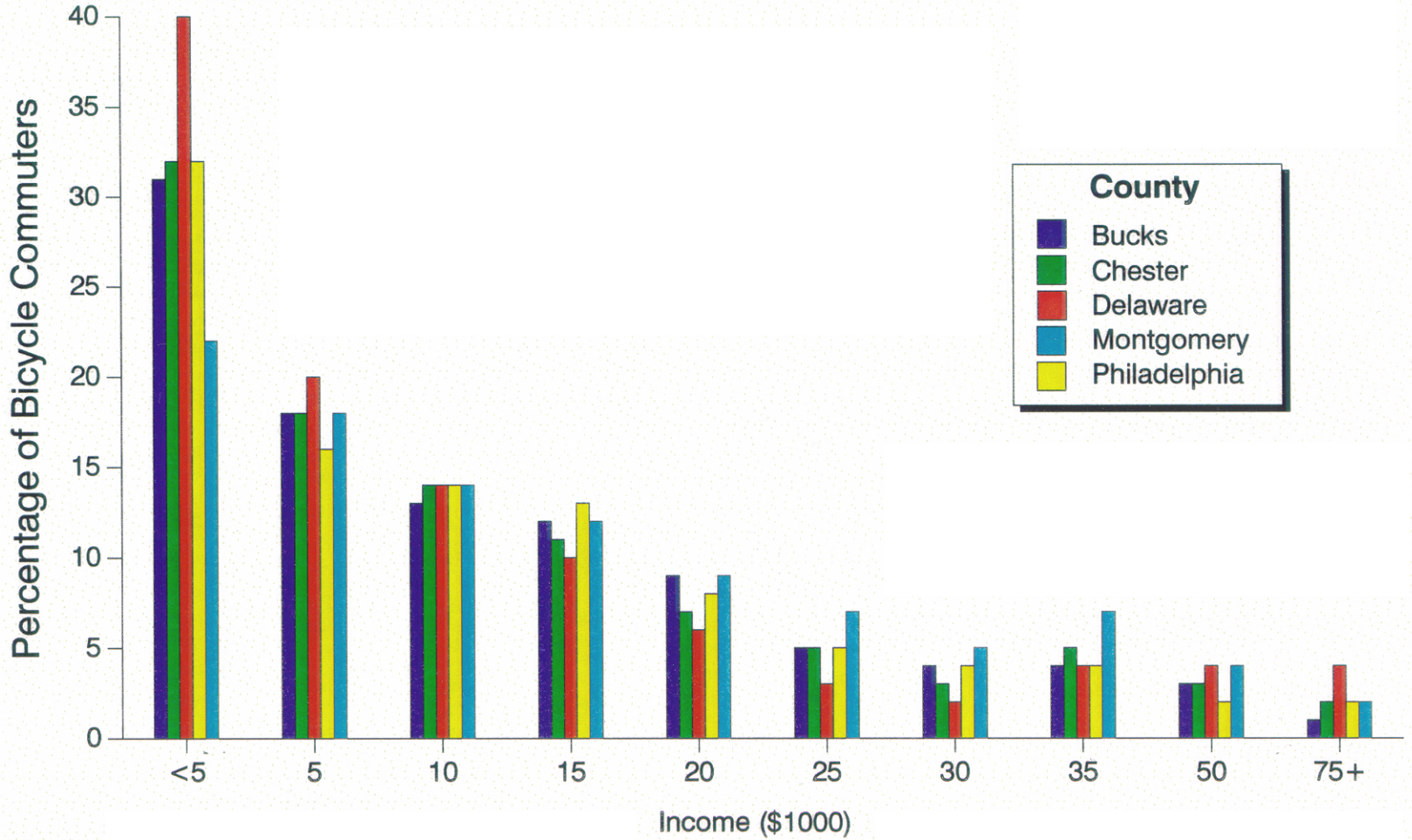


DELAWARE VALLEY REGIONAL PLANNING COMMISSION

Source: 1990 U.S. Census

Figure III

Distribution of Southeastern Pennsylvania Bicycle Commuter's, By Income



DELAWARE VALLEY REGIONAL PLANNING COMMISSION

Source: 1990 U.S. Census

TABLE X
UNITED STATES BICYCLE COMMUTERS BY AGE

Age Group	Percentage of All Adult Cyclists
18-29	67%
30-39	24%
40-49	17%
50-64	11%

Source 1991 Harris Poll

COMMUTER BICYCLE TRIP ORIGIN

The percentage of area bicycle commuters is distributed by county of origin in Figure IV. According to the 1990 U.S. Census, Philadelphia commands the largest number of commuter bicyclists (42 percent). Bucks, Chester, and Delaware Counties each command a 17 percent share of the bicycle commuter population, leaving almost eight percent of the bicycle commuter population in Montgomery County. Perhaps the rural nature of Bucks and Chester Counties make roadways more amenable to bicyclists.

The 1990 U.S. Census journey-to-work data reports that less than one percent of commuter trips within the region are made by bicycle, and the majority of these trips appear to be concentrated in Center City and West Philadelphia (Figure IV). However, the U.S. Department of Transportation's National Bicycling and Walking Study (Case Study 15) acknowledges that the Census information has important shortcomings regarding bicycling and walking because the survey is conducted in late March, school and university commutes are excluded, only primary modes are considered, and only the work trip is covered. Surveys that include non-work trips or that recognized the use of a bicycle for part of a trip - such as riding to a train station - may find much greater usage. Using the Census information, the origin of daily commuter bicycle trips was mapped in Figure IV. With the exception of bicycle commuter concentrations in West Philadelphia and Center City, the distribution of bicycle commuters is limited and scattered throughout the region.

Bicycle to work trips were most often identified in municipalities that host a large employer (one who employs more than 500 people) or houses a college or university. This may be attributed to the fact that large employers are in a better position to provide the amenities that encourage people to bicycle to work. These amenities include: showers, dressing rooms, and bicycle parking. In a university setting, students and

faculty often live close to campus and create a critical mass helpful for acceptance of biking.

There also appears to be a relationship between the presence of a bikeway in a community and the number of people who commute by bicycle. Communities that have constructed bikeways are more likely to report bicycle commuters. In many cases these bicycle facilities are purely recreational; however, the fact that they do exist and are signed within some communities may legitimize the use of the bicycle as a transportation alternative. The small number of communities that host bikeways in southeastern Pennsylvania makes it difficult to draw valid conclusions from this observation.

COMMUTER BICYCLE TRIP DESTINATION AND TRAVEL TIME

A review of census information reveals that as with trip origin, most bicycle commuter trip destinations tend to be to census tracts that house either a large employer or college or university. In many cases, commuter bicycle trips which originated outside of Philadelphia were intermunicipal, rather than within the same census tract or municipality.

Trips made by bicycle within the region tend to be under twenty minutes. According to 1990 Journey to Work information, mean travel time for bicycle trips is 17 minutes. Suburban counties with the exception of Delaware County are likely to report shorter bicycle travel times than Philadelphia (Table XI).

TABLE XI
1990 MEAN TRAVEL TIME IN MINUTES BY MODE OF TRANSPORTATION

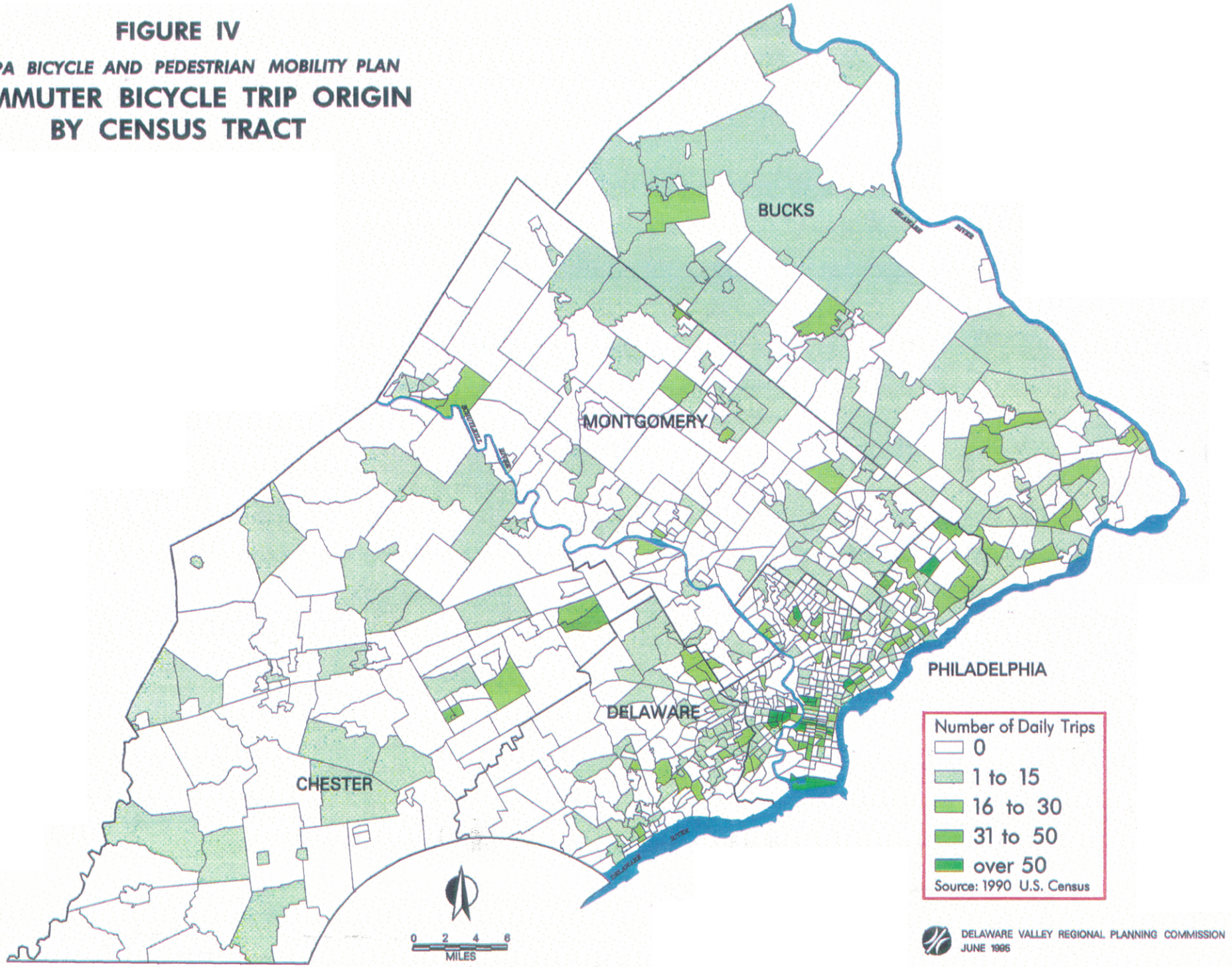
County	All Modes (in minutes)	Bicycle (in minutes)
Bucks	24	14
Chester	24	16
Delaware	25	18
Montgomery	23	16
Philadelphia	28	17
Regional	25	17

Source: 1990 U.S. Census.

FIGURE IV

SE PA BICYCLE AND PEDESTRIAN MOBILITY PLAN

COMMUTER BICYCLE TRIP ORIGIN BY CENSUS TRACT



DELAWARE VALLEY REGIONAL PLANNING COMMISSION
JUNE 1995

BICYCLE POTENTIAL

Bicycling has the potential to fill many travel needs and at the same time improve air quality and increase mobility for people who do not have access to automobiles. While reducing automobile congestion and improving air quality are major public policy goals, the bicycle is currently not being used extensively in the Delaware Valley. To determine the potential for bicycle commuting in this region, the commuting practices of commuters who travel two miles or less to work were examined. While estimates of potential bicycle use in North America have often used a trip distance of five miles,[6] the Bicycle and Pedestrian Mobility Steering Committee has recommended that two miles be considered a bikeable distance, given the area's climate, terrain, and limited bicycle facilities.

According to 1980 Census UTPP information, the total number of southeastern Pennsylvania workers who commuted to work in 1980 was 1,444,054. The total number of workers who commuted two miles or less was 242,272. Data for 1990, while not yet available, could be expected to be similar. The modal share by mode of transportation appears in Table XII.

TABLE XII
SOUTHEASTERN PENNSYLVANIA COMMUTER TRAVEL MODE
TWO MILES OR LESS

Travel Mode	Number	Percent
Drive Alone	107,732	44
Drive (not alone)	30,978	13
Public Transportation	22,812	9
Walk	75,098	31
Bicycle	2,219	<1
Other	3,433	1
Total:	**242,272**	**100**

Source: 1980 U.S. Census UTPP.

Currently one of the most under utilized transportation modes is the bicycle. The Single Occupant Vehicle (SOV) accounts for 44 percent of the commuter trips of two miles or

[6] Fegan, John, "National Bicycling and Walking Study: Results and Recommended Actions - The Bicycle: Global Perspectives".

less made in this region. If the bicycle were substituted for even one percent of these SOV trips, more than 1,000 automobiles would be eliminated from the roadways. Bicycling produces no air or significant noise pollution. Air pollution savings are even greater for short trips because of the high emission rates produced by cold automobile starts. According to DVRPC estimates, if bicycles were to capture 5 percent of auto work trips of less than or equal to five miles, emissions could be reduced by 98 tons annually.[7]

CONCLUSION

Bicycling currently accounts for a very small share of all commuter trips made in southeastern Pennsylvania. Although commuter bicycle trips are scattered across the region, these trips do seem to be clustered in areas that host large employers and colleges and universities. Based on local survey results, the most significant factors influencing a person's decision to commute by bicycle are weather conditions, safety and time constraints. If bicycling is to become more widespread in this region, a more bicycle friendly environment must be created. Creating a bicycle friendly environment requires improved engineering and operation of streets and more compact land use formations. In the next chapter the existing bicycle network and bicycle policies are examined to determine the extent to which they encourage utilitarian bicycle trips.

[7] DVRPC, "Transportation Control Measures".

CHAPTER III

NONMOTORIZED TRANSPORTATION: EXISTING CONDITIONS

Given past transportation planning policy, it is not surprising to find that the region has a relatively small number of transportation oriented bicycle facilities. This chapter inventoried the bicycle facilities in the region. Bicycle facilities include lanes, trails and paths - both on- and off-road - that can safely accommodate bicyclists. Establishing an inventory of existing bicycle facilities is difficult. While there are a number of maps that purport to show bicycle "routes" throughout the region, many have been identified along roadways that have not been designated as safe for bicyclists. Some "routes" that appear on other maps have been omitted from this inventory - especially in cases where local officials have characterized road conditions as being unsafe for bicyclists.

The inventory provides a baseline measurement for determining the extent to which the current network of bikeways supports and encourages bicycling. Most of the facilities identified in this inventory have been designed to serve the needs of both pedestrians and bicyclists. Because of the number of sidewalks and pathways within new developments located within southeastern Pennsylvania, a separate listing of pedestrian-only facilities have not been included.

EXISTING BICYCLE FACILITIES

In 1979, DVRPC prepared a draft inventory of the region's bicycle facilities. The study concluded that the existing system was "rather extensive..., but fragmented."[8] More than ten years later, this is still an apt description of southeastern Pennsylvania's bicycle network. While southeastern Pennsylvania has more than 200 miles of bicycle facilities, the majority of these bicycle facilities are Class I bikeways which have been constructed within recreational areas such as state, county, or local parks.

The existing system cannot accurately be depicted as a network because it lacks the interconnectedness implied by the term. While there are several strong regional connections already in place, existing facilities, generally, are isolated islands providing communities with recreational opportunities. Several of these facilities are only accessible to local residents. In some cases, recreational bicycle facilities located within parks can be accessed by state highways with shoulder widths which adequately meet the bicycle standards proposed by the American Association of State Highway and Transportation Officials (AASHTO).

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[8] Delaware Valley Regional Planning Commission, "Bicycle Mobility Study: Draft Report," October, 1979, page 81.

All existing bicycle facilities have been mapped on Figure V. In addition, Table XIII provides an overview of the salient features of each of the region's bicycle facilities. However, the region boasts several outstanding facilities which deserve special attention and are discussed below.

By far, the longest linear useful bicycle route in the region is the Schuylkill River Trail. This exceptional facility crosses Philadelphia and Montgomery Counties and terminates at Valley Forge Park in Chester County. In Philadelphia, the Schuylkill River Trail uses city streets, Fairmount Park trails, and the Manayunk Canal Tow Path. From Port Royal Avenue to Valley Forge, a good portion of the trail utilizes an abandoned rail right-of-way. Located along the trail are rail stations, large employers and densely populated residential communities. Because of its linear nature, the trail has the potential to be a viable commuter bikeway. Currently the trail may not be used to its full capacity because of access problems along the route. The Schuylkill River Pedestrian and Bike Trail, a Transportation Enhancement Project which has been approved for funding, will link with this trail and extend it to Spruce Street in Center City Philadelphia.

Throughout Philadelphia, bikeways have been constructed within city parks. Because these bikeways are primarily recreational, connectors are needed to link these bikeways to each other as well as other points of interest throughout the city.

In Bucks County, the longest linear bikeway is located in Delaware Canal State Park. Currently, however, this facility is marginally useful as a bike trail. It is unpaved and in many parts consists of nothing more than compacted earth. In its current condition, the bikeway may only be accessible to mountain bikers. Any improvements to the facility must adhere to the Pennsylvania Historical and Museum Commission's Guidelines and are subjected to standards for historic state parks which are promulgated by the Secretary of the Department of the Interior. Consequently, the path can never be paved and must be maintained as a dirt trail.

The Lower Makefield bicycle network located in Bucks County provides a comprehensive municipal network of paved bicycle paths that link residential neighborhoods to schools and community centers. The trails terminate at the municipal boundary. Portions of the trails are at times partially submerged in water because the trails have been constructed through stream beds rather than over them.

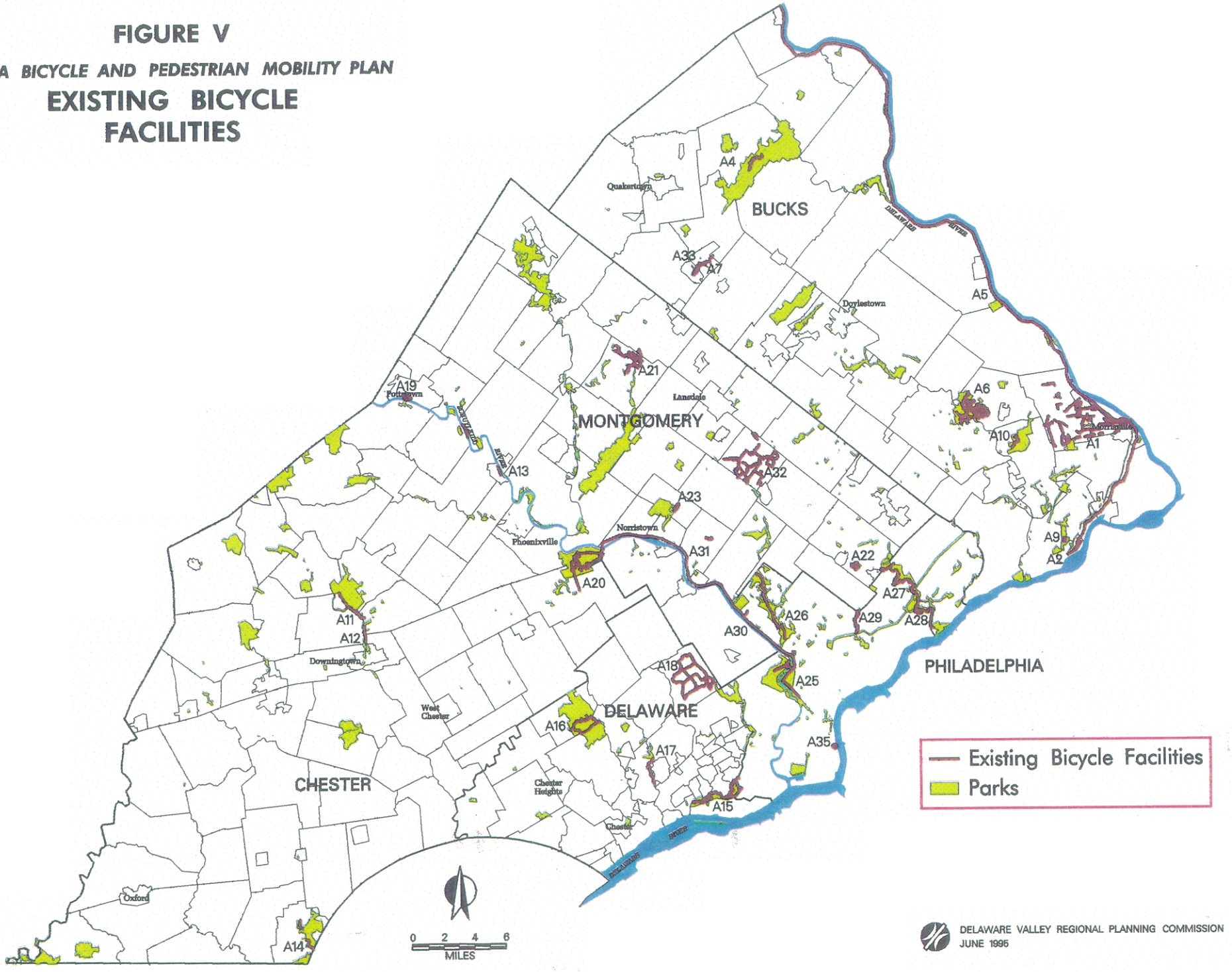
Within Delaware County, the Haverford Township Historic Bike Trail links significant points of interest. This 13-mile trail runs along local streets past the municipal complex, retail and commercial facilities and provides connections with residential areas.

The Wissahickon Valley Watershed Association Trail located in Lower Gwynedd, Montgomery County runs between Pennlyn Woods School and the local business community and provides connections to important public and private areas.

FIGURE V

SE PA BICYCLE AND PEDESTRIAN MOBILITY PLAN

EXISTING BICYCLE FACILITIES



Key to Figure V - Existing Bicycle Network
SOUTHEASTERN PENNSYLVANIA EXISTING BIKE FACILITIES

BUCKS COUNTY

(A-1)	Lower Makefield Township
(A-2)	Bristol Borough, Spurline Park
(A-4)	Nockamixon State Park
(A-5)	Delaware Canal Towpath
(A-6)	Tyler State Park, Bicycle Trails, Newtown
(A-7)	Perkasie Borough, Lenape Park Bike Path
	Selersville Borough, Lenape Park Bike Path
(A-8)	New Britain Township, Peace Valley Park
(A-9)	Bristol, Silver Lake Nature Center
(A-10)	Middletown Township, Core Creek Park
(A-33)	Perkasie Borough, Bikeway System

CHESTER COUNTY

(A-11)	Struble Trail
(A-12)	Lions Trail
(A-13)	Spring City Bike Trail
(A-14)	White Clay Creek Preserve

DELAWARE COUNTY

(A-15)	John Heinz National Wildlife Refuge at Tinicum, Impoundment Loop Trail
	John Heinz National Wildlife Refuge at Tinicum, Darby Creek Trail
(A-16)	Ridley Creek State Park Trails, Sycamore Mills Bikeway
(A-17)	Leiper-Smedley Trail, Nether Providence Township
(A-18)	Historical Bike Trail, Haverford Township

MONTGOMERY COUNTY

(A-19)	Borough of Pottstown
(A-20)	Valley Forge National Historical Park
(A-21)	Lower Salford Township Park System
(A-22)	Abington Township, Alverthorpe Park
(A-23)	East Norriton Trail
(A-24)	Lower Gwynedd, Wissahickon High School
(A-31)	Schuylkill River Trail
(A-32)	Lower Gwynedd, Watershed Association Trail
(A-34)	Whitemarsh Township Trail

PHILADELPHIA COUNTY

(A-25)	Fairmount Park
(A-26)	Wissahickon Valley of Fairmount Park
(A-27)	Upper Pennypack Park
(A-28)	Lower Pennypack Park
(A-29)	Tacony Creek
(A-30)	The Schuylkill River Trail
(A-35)	Columbus Boulevard

TABLE XIII

EXISTING BICYCLE FACILITIES
SOUTHEASTERN PENNSYLVANIA

Map	Existing Trail	Length (miles)	County	Location	Large Employers [1]	Transit [2]	Description
A-1	Lower Makefield Bicycle Paths	Approx 15.0	Bucks	Lower Makefield, along streets in Yardley and Morrisville.	0	2	Trail links residential developments with schools, community services and shopping centers within Lower Makefield Twp. *
A-2	Spurline Park Trail	Approx 2.5	Bucks	Located along an abandoned rail. Runs from Mill Street to Jackson Street in Bristol Boro.	2	0	Purely recreational.
A-4	Nockamixon State Park Trail	2.8	Bucks	In Haycock, the trail weaves through the state park on the northwestern side of Lake Nockamixon.	0	0	Purely recreational.
A-5	Delaware Canal Towpath	60.0	Bucks	Along east side of Bucks County from Bristol to Easton. Parallels the Delaware River.	5	3	Purely Recreational, but could be utilized in region wide linking of Bucks County eastern municipalities.
A-6	Tyler State Park Bicycle Trails	10.5	Bucks	Weaves through the interior of Tyler State Park.	0	0	Purely recreational. *
A-7	Lenape Park Bike Trail	1.4	Bucks	Path is located along the boundary of the Borough of Perkasie and the Borough of Sellersville.	1	0	Purely recreational, but because of location it could act as a connector between the two municipalities.
A-8	Peace Valley Park Trail	4.5	Bucks	Trail weaves through park, circling Lake Galena in New Britian.	0	0	Purely recreational, exclusively in park.
A-9	Silver Lake County Trail	1.8	Bucks	Path is located in park in Bristol.	0	0	Purely recreational, exclusively in park.
A-10	Core Creek County Park Trail	2.5	Bucks	Path is within park in Middletown Twp.	1	0	Purely recreational, exclusively in park. *

A-33	Perkasie Borough	Approx 0.7	Bucks	Perkasie, predominantly on 4th Street within Sellersville.	1	0	Bikeway provides connection from high school to apartment complexes and runs along main streets.
A-11	Struble Trail	2.6	Chester	In East Caln and Uwchlan Townships, paralling East Branch of Brandywine Creek.	1	1	Is recreational, but does link two suburban townships to a borough center
A-12	Lions Trail	0.5	Chester	Downingtown, from Pennsylvania Ave to linkage with Struble Trail.	1	1	Is recreational, but does link two suburban townships to a borough center.
A-13	Spring City Bike/Hike Trail	0.5	Chester	Spring City along Schuylkill River.	0	0	Is recreational, but does run the length of Spring City
A-14	White Clay Creek Preserve Spur Trails (Bike and Hike)	1.6	Chester	Located in southern Chester County in White Clay Creek Valley.	0	0	Purely recreational.
A-15	Impoundment Loop Trail Darby Creek Trail	6.3	Delaware	Tinicum, John Heinz National Wildlife Refuge. Trail runs through environmental center	3	0	Purely recreational.
A-16	Sycamore Mills Bikeway	Approx 5.0	Delaware	Edgmont, runs throughout the Ridley Creek State Park	0	0	Purely recreational.
A-17	Leiper-Smedley Trail	Approx 2.2	Delaware	Located in Nether Providence. This linear trail parallels the Blue Route (I-476).	2	2	Primarily recreational, although it does run through developed sections of Wallingford.
A-18	Haverford Historical Bike Trail	13.0	Delaware	Trail starts at Wawa Food Market and ends at the Municipal Building. Trail consists of 24 historic sites and 4 interest points in Haverford Township. Runs along Ardmore Ave, Manoa Road and Ellis Road as well as others	1	0	Runs on streets linking together key points of interest in Haverford. There is no linkage with areas outside of the municipality.
A-19	Biking Trails	Approx 1.3	Montgomery	The trails are located on the northeast side of the Schuylkill river in Pottstown. They are opposite the Pottsgrove Mansion.	1	0	Purely recreational. *

A-20	Bike Trail at Valley Forge	6.4	Montgomery	Located within Valley Forge National Historical Park in Upper Merion. Trail runs through Encampment area.	0	1	Purely recreational. *
A-21	Lower Salford Township Park System	2.3	Montgomery	Located within Harleysville in Lower Salford. Trail is located on streets and in park.	1	0	Trail weaves through the developed area of this municipality.
A-22	Alverthorpe Park	1.7	Montgomery	Trail runs though the park in Abington.	0	0	Purely recreational.
A-23	East Norriton Trail	Approx 1.3	Montgomery	Trail runs along Stanbridge Street (among others) in East Norriton.	0	0	Purely recreational
A-24	Wissahickon High School	1.5	Montgomery	Trail is located in Lower Gwynedd and runs from Wissahickon High School to the Little League field in Ambler.	0	0	Purely recreational.
A-31	Schuylkill River Trail	11.5	Montgomery	Trail runs from Port Royal Avenue (the Schuylkill Center) to Valley Forge Park (Betzwood Picnic Area). This trail runs through Whitemarsh Twp, Conshohoken Boro, Plymouth Twp, Norristown Boro, and West Norriton Twp.	0	6	Originally developed as a transportation /commuter demonstration project but is currently used primarily for recreation. *
A-32	Wissahickon Valley Watershed Association Trail-Montgomery	Approx 16.0	Montgomery	Trail begins in Lower Gwynedd Twp and continues along the Wissahickon Creek to the Philadelphia County line, where it connects with the Wissahickon Valley Trail.	4	1	Trail segments the municipality along the Wissahickon Creek. It provides connections to important public and private areas.
A-34	Whitemarsh Township Trail		Montgomery				
A-25	Fairmount Park Trail	9.0	Philadelphia	Trail runs south of the Pennsylvania Railroad Schuylkill Bridge along West River Drive.	3	0	Purely recreational but does provide linkages. *

A-26	Wissahickon Valley Trail	5.5	Philadelphia	Trail runs through Wissahickon Valley of Fairmount Park	0	0	Purely recreational *
A-27	Upper Pennypack Park Trail	4.0	Philadelphia	Bike trail runs along Pennypack Creek in Fox Chase and Pennypack.	1	0	Purely recreational
A-28	Lower Pennypack Park	4.0	Philadelphia	Bike trail runs along Pennypack Creek in Winchester Park and Upper Holmesburg.	0	1	Purely recreational.
A-29	Tacony Creek Park Trail	1.8	Philadelphia	Trail lies along Tacony Creek bed in Olney.	1	1	Purely recreational.
A-30	The Schuylkill River Trail	10.0	Philadelphia	Trail runs from the Schuylkill Center to Manayunk (Main Street) to Kelly Drive to Philadelphia Museum of Art on the Parkway.	2	4	Trail is recreational in intent, but also provides opportunity for commuting between its linked areas. *
A35	Columbus Boulevard	Approx 0.2	Philadelphia	Bike lane runs from Home Depot Shopping Center to Reed Street along Columbus Blvd.	1	0	Bike lane runs along shoulders of Boulevard and links two shopping centers. It will link to a planned bike lane along Columbus Blvd.

* Note: Programmed TIP project with a bicycle component will connect with this bicycle facility
[1] Single employers of 500 or more employees
[2] Regional rail stations

EXISTING ROADWAYS

Existing roads and streets provide the greatest potential resource for bicyclists. Under the best of conditions - such as low traffic volumes and operating speeds and adequate shoulder widths - the existing street network can represent a cost-effective means of developing a bicycle network. However, despite the importance of the existing street network, the actual identification, analysis, and subsequent selection of the best streets and design treatment is a complex task.[9] Southeastern Pennsylvania contains more than 3,650 miles of state and 9,850 miles of local roads. While an evaluation of these roads was not possible for this study, the factors that should be considered for the bicycle compatibility of roadways include: peak hour traffic volume, curb lane width, motor vehicle speed, type of traffic, parking conditions, commercial driveways, grade and sight distance. Each of these factors are interrelated and result in variable impacts on the bicyclist. Therefore, to determine the bicycle compatability of area roadways it is advisable that each be examined individually, and ridden if possible, to determine the routes that can most easily accommodate bicycles. AASHTO standards should also be consulted to determine whether the roadway is sustainable to accommodate minimum AASHTO standards.

The PennDOT State Routes map (Figure VI) provides a cursory overview of state highways with shoulders widths that comply with AASHTO's four foot minimum standard for bicycle lanes. The routes which offer the greatest potential are those with four foot shoulder on both sides of the roadway. Of course, adequate shoulder width is not the only factor in determining the safety of a bicycle route and the routes as shown here may not be currently bikeable. In addition to the factors mentioned above, additional considerations include: the presence of drainage grates, railroad crossings, pavement surfaces free of irregularities, and traffic control devices. Nevertheless, the map provides a starting point for identifying connections between small local bikeways and residential communities outside of the immediate town core. State highways can also provide missing intercounty and intermunicipal links. Signing selected state routes as bikeways may be advantageous, especially to provide linkages to existing facilities.

Bicycles are allowed on all roads in southeastern Pennsylvania with the exception of I-95, I-276 (Pennsylvania Turnpike), I-476 (Blue Route), I-76 (Schuylkill River Expressway), I-676 (Vine Street Expressway), and all other limited access routes. Bicycles are also not allowed on Kelly Drive or West River Drive in Philadelphia during rush hour, nor at any time on Lincoln Drive or the Chestnut Street Transitway (6th to 18th Streets).

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[9] Alex Sorton, "Urban and Suburban Bicycle Compatability Street Evaluation Using Bicycle Stress Level", 73rd Annual Meeting of the TRB, January 1994.

DELAWARE RIVER BRIDGES - EXISTING POLICY

Existing bridges along the Delaware River provide the vital link between southeastern Pennsylvania and New Jersey. These bridges help to make the critical connection between population and employment centers and recreational opportunities outside the region in southern New Jersey and the routes identified on the Proposed Bicycle Network.

Bicycles and pedestrians are permitted across the Lower Trenton Bridge and the Calhoun Street Bridge. Bicycles are permitted across the Ben Franklin Bridge from 7 a.m. to 6 p.m. After 6 p.m., the guards must be notified to open the gate. Bicycles must be walked across the Tacony-Palmyra Bridge on the walkway, and children must be accompanied by an adult.

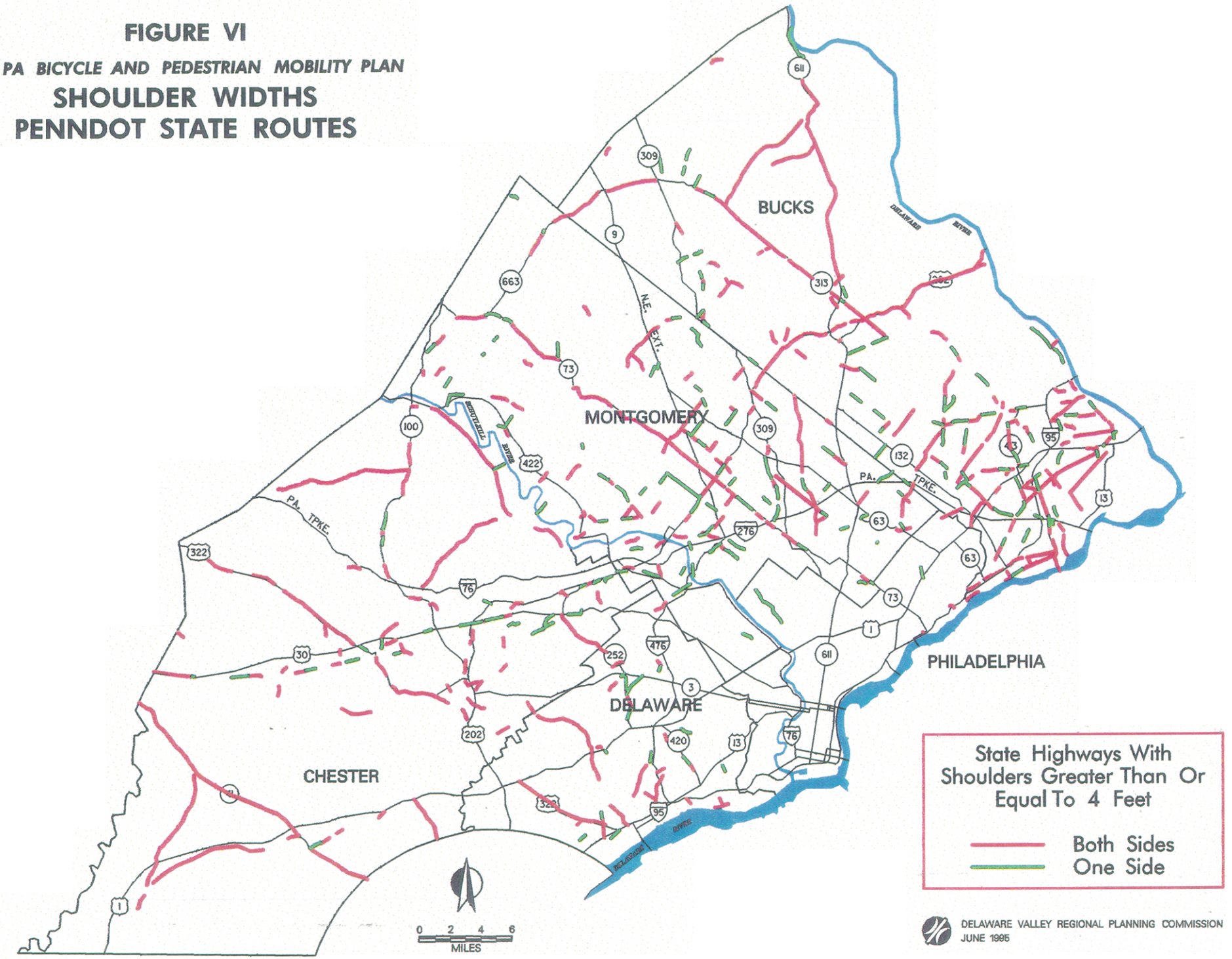
No bicycles or pedestrians are permitted across the Betsy Ross Bridge, the Walt Whitman Bridge, the Turnpike Bridge, the U.S. 1 Freeway Bridge and the Scudders Falls Bridge. Bicycles and pedestrians are also not permitted across the Commodore Barry and the Burlington-Bristol Bridges, but Port Authority police may transport bicyclists by appointment.

Bicycles are allowed to cross the following bridges, north of Trenton, but must be walked across when there is an existing walkway: the Washington Crossing Bridge, Rt. 179 Bridge, Rt. 202 Bridge, Rt. 263 Bridge, Uhlerstown Bridge, Upper Black Eddy Bridge and the Riegelsville Bridge.

FIGURE VI

SE PA BICYCLE AND PEDESTRIAN MOBILITY PLAN

SHOULDER WIDTHS
PENNDOT STATE ROUTES



DELAWARE VALLEY REGIONAL PLANNING COMMISSION
JUNE 1995

CHAPTER IV

CURRENT CONDITIONS: THE IMPACT OF PLANNING

If bicycle and walking are to be used for transportation purposes, the built environment must encourage these modes of transportation. Within Pennsylvania, local governments have important tools they can use to influence the future development patterns of their communities. A community's bicycle and pedestrian accessibility can be strongly influenced by the extent to which these issues have been considered in a community's comprehensive plan. In addition, by adopting subdivision and land development ordinances, local governments can set additional standards that regulate the design and layout of a community. In this chapter planning tools such as comprehensive plans, zoning, and subdivision ordinances that are being used to promote bicycle and pedestrian mobility within southeastern Pennsylvania are inventoried.

PROPOSED BIKEWAYS

Changing how a locality addresses nonmotorized transportation concerns is a process known as "institutionalizing" these concerns.[10] Attention to nonmotorized transportation modes signals recognition, at least to some degree, that a community encourages alternatives to the automobile.

The Pennsylvania Municipalities Planning Code provides the enabling authority for communities to develop local comprehensive plans. A carefully developed comprehensive plan is important since it can be used by local governments as a tool to promote bicycling by either outlining policies that encourage bicycle use or identifying actual bicycle routes. Several communities within southeastern Pennsylvania have provisions within their comprehensive plans for linking residential, recreational, commercial and employment centers with a bicycle network. To the extent that the policy has been translated into a design and committed to paper, the facilities have been mapped on Figure VII. Several municipalities have also adopted subdivision ordinances to ensure the vision of the comprehensive plan is realized. Municipalities that have adopted subdivision ordinances are noted below. The sections that follow provide an inventory of communities with comprehensive plans and recreational plans that address bicycle concerns and a listing of municipalities that have adopted subdivision and land development ordinances that call for the creation of bicycle and pedestrian facilities.

[10] Pro Bike Pro Walk Resource Book D-8, September 1994

COMPREHENSIVE PLANS

BUCKS COUNTY

Bucks County in its Comprehensive Plan (1993), has identified a "Link Parks" Strategy which encourages the development of trails along stream valleys, ridge lines and right-of-ways to link two or more parks or population centers. Although recreational in nature, their linear shape also makes them ideal transportation corridors.

Listed as one of the objectives in its Comprehensive Plan Update (1992), **Buckingham Township** recognizes that provisions for bicycle and pedestrian movement can relieve vehicular trips. The plan stresses that pedestrian ways and bike paths should be located between residential developments, schools and recreational areas to reduce the number of automobiles on the road and to provide independent access for children and adults. The Township's "Pedestrian/Bicycle Access through Historic Buckingham Village" has been approved for funding and is programmed on the region's Transportation Improvement Program (TIP).

Doylestown Borough's Comprehensive Plan (1989) acknowledges that walkways and bicycles serve two functions. First, they provide transportation routes to the least mobile groups in the population. Second, they provide recreational opportunities for people of all ages. The plan recommends that a network of walkways and bikeways be created to connect major community facilities and residential neighborhoods. The Township has submitted two Transportation Enhancement applications. Neither project was approved for funding.

Hilltown Township's Comprehensive Plan (1991) lists developing a bicycle master plan as an implementation strategy for attaining its goal of "assuring ...a safe and efficient transportation and access network is developed." Within the Circulation Plan Element, another recommendation states that a plan for open space, bikeways, and historic resources be prepared.

Middletown Township's Bikeway System Master Plan's (1990) focus is on linking together high interest points such as parks, schools, residential and recreational areas. The Township has pursued the creation of safe and scenic bicycle facilities and has submitted several Transportation Enhancement applications (see Chapter II). In 1993, township supervisors secured funding for a 1.3 mile path along New Falls Road. Residential opposition quashed the plan. More recently, the Township's Village Road Bikeway proposal was approved for funding. The plan will create a five mile path linking Core Creek County Park and Tyler State Park. About 10 years ago, Middletown officials agreed to "strongly encourage" builders to include bicycles in all new developments and have incorporated provisions for the construction of bicycle facilities into its subdivision and land development ordinance.

The **Quakertown Area** Comprehensive Plan was updated in 1992 and includes pedestrian and bikeway considerations. Municipalities included in the planning area are: Haycock Township, Milford Township, Quakertown Borough, Richland Township, Richland Borough, and Trumbauersville Borough. In 1981, the Quakertown Area Planning Committee submitted to the participating municipalities the Quakertown Area Linked Open Space Plan which identified linear open spaces that would connect residential areas with recreational and community facilities, schools, parks, playgrounds, shopping centers and employment areas. The Comprehensive Plan update encourages the participating municipalities to refer to the Linked Open Space Plan to assure the system is established over time.

CHESTER COUNTY

Chester County, in the Open Space and Recreation Element of its draft comprehensive plan - "Landscapes", identifies an extensive greenway network based upon linear corridors that traverse the county. While not all of these greenways will be used as bicycle routes, many will have that potential. The Circulation Element of "Landscapes" will contain an analysis of non-motorized transportation networks.

While most municipal comprehensive plans in Chester County recognize the importance of non-motorized transportation corridors, few have actually planned for them. This is especially true regarding bicycling facilities. Eight municipalities have developed local bicycle networks within the circulation or community facilities section of their comprehensive plans. **Upper Uwchlan** (1987) and **Wallace** (1986) **Township** include an extension of the County's Struble Trail to Marsh Creek State Park. **Phoenixville Borough** (1988), North Coventry Township (1989), and **Schuylkill Township** (1994) include components of the Schuylkill River Trail. **West Bradford** (1989), and **West Goshen** (1977) Township's Circulation Map identify local hiking/biking networks.

The **West Whiteland Township** Comprehensive Plan (1983) identifies three strategies for improving upon the existing informal sidewalk/pathway/bikeway network. These actions include (1) develop a Township pathway and bikeway plan; (2) establish pathway and bikeway links within proposed subdivisions; and, (3) selectively expand the current network through gifts, easements, and public acquisition. In its master plan, the Township recommends that a bikeway plan be developed and that bikeway linkages be established within subdivisions.

Downingtown Borough in its Subdivision/Land Development Ordinance (1993) requires that, "...a system of bicycle, equestrian and/or pedestrian paths for public use... shall be established and secured by dedication or easement."

London Britian Township amended its Zoning and Subdivision and Land Development ordinance in 1993. The amendments were passed to protect existing trails from being eliminated by development and to encourage the creation of a trail network throughout

the Township. The Township's interest tends toward pedestrian and equestrian use. The Township did submit a Transportation Enhancement application to fund the "Southern Trail Network." Funding for this project was not approved.

DELAWARE COUNTY

The Delaware County Open Space, Parks and Recreation Study has identified potential bicycle trails built upon abandoned rail corridors throughout the county. In addition, all Delaware County municipalities were contacted to determine which ones had included bicycle facility planning in either municipal master plans or recreation plans. DVRPC discovered that only **Radnor Township**, in its Comprehensive Plan (1988), recommends that bicycle facility linkages be established between neighborhoods and public and recreational facilities. Although two Transportation Enhancement applications were submitted for projects in the Township, neither was approved for funding. The P&W Bicycle/Pedestrian Trail was approved for CMAQ.

MONTGOMERY COUNTY

Montgomery County's Transportation Plan Update is currently in its draft form. Considerable attention is given to bicycle facilities. The plan states "a separate parallel off-road bicycle path is often most desirable." However, the plan acknowledges that bicycle movement should be considered on arterial and collector streets. Standards for bicycle lanes are also discussed in the plan. Moreover, Montgomery County has outlined an Interim Trail Strategy that will provide inter- and intra-county linkages. Many of the proposed trails are located along rail right-of-ways. Montgomery County is currently updating its Open Space Plan so that acquisition for open space through its $100M Bond Program is systematically guided. The plan will have a trail/corridor element and will reference the road network element of the County Transportation Plan. The plan is scheduled for completion in 1995. The trails listed in this Southeastern Pennsylvania Bicycle and Pedestrian Plan as the interim trail strategy for Montgomery County may be changed depending on the outcome of the Montgomery County Plan.

Abington Township's Comprehensive Plan (1992) addresses the need for creating a comprehensive bicycle and pedestrian network and intratownship bicycle facilities. The plan encourages the creation of a Linear Park Linkage Program where existing park sites may be integrated with linkage right-of-ways. The plan also recommends that zoning and subdivision codes be revised to require, whenever possible, the reservation of land within a development project for pathways and easements to encourage residents to walk to stores and public transportation points. Abington submitted several Transportation Enhancement applications for projects located within parks and along roadways. None of these applications were approved for funding.

Lower Salford Township's Comprehensive Plan (1993) specifically recognizes that "sidewalk and bike trails provide the only independent means of transportation for those

not able to drive..." The plan proposes that bicycle trails connect the Township's schools, commercial areas, and residential developments.

Towamencin Township's Draft Comprehensive Plans (1995) include a town center land use plan, a township-wide open space and master recreation plan, a township-wide trail system and a special zoning overlay district. The town center plan proposes an intermodal transportation center, linked through a system of on and off-road bicycle and pedestrian plans. Towamencin's trail system is designed to be compatible with and integrate into the Montgomery County and DVRPC plans, providing linkages between the proposed Liberty Bell and Evansburg Trail, as well as a network of on-road improvements.

PHILADELPHIA COUNTY

"Connecting Philadelphia's Parks: A Comprehensive Recreational Trail Plan" proposed by the Fairmount Park Commission in 1992, identifies enhancements to existing trails within the Fairmount Park System and proposes new trails to create a recreational/commuter bicycle route that will establish a city-wide system of linkage for bicyclists. Currently, there is one designated bicycle lane in the City of Philadelphia along a portion of Columbus Boulevard. A second bicycle lane will extend from Fairmount Avenue to Columbia Avenue along Columbus Boulevard. The Philadelphia Streets Department, through various surface treatment programs, is also currently installing bicycle lanes where conditions permit and has installed an existing system of "Share the Road" signs on City streets.

The Philadelphia Streets Department recently received funding approval from CMAQ for the Philadelphia Bicycle Network Program. In addition to studying existing conditions and promoting awareness, this project seeks to develop and construct a city-wide route network.

RECREATION PLANS

In addition to routes that have been outlined in a community's comprehensive plan, a number of communities are actively planning for trails as part of a community open space program. These trails are often designed to improve the accessibility of parks. Commonly they use natural or man made corridors which may include stream valleys, utility right-of-ways, sidewalks and low volume roadways or areas of undeveloped land. Because of the large number of communities within the region which have designated trail systems within their open space plans, only those plans which are specifically identified as bicycle trails appear in Figure VII.

BUCKS COUNTY

The **Perkasie Borough** Recreation Study of 1980 proposes a bikeway system that will connect with existing bikeway facilities in Sellersville and East Rockhill and various activity centers along the way. The study encourages Borough officials to require developers to complete the undeveloped links in the system when subdivision plans are filed for vacant parcels.

CHESTER COUNTY

Within Chester County, several municipalities have identified potential local bikeways in their open space, recreation, and environmental resources plans. **East Whiteland's** plan (1993) proposes a local hiking/biking trail network that includes the Chester Valley Trail. **Kennett Square Borough** and **Kennett Township** in their joint plan for (1993) propose a separate bicycle route through the Borough. **Malvern Borough** includes in its plan (1992) a local greenway system that could accommodate bikeways. In their plans **Phoenixville Borough** (1993), **Schuylkill Township** (1992), **North Coventry Township** (1992), and **Spring City Borough** (1986) identify potential local bikeway networks with connections to the Schuylkill River Greenway. **Upper Uwchlan** (1992) and **West Bradford** (1993) incorporate the Struble Trail extension into their plans.

MONTGOMERY COUNTY

In addition to the municipalities listed here, all of Montgomery County's 62 municipalities must complete an open space plan in order to receive their share of Montgomery County's Open Space $100M bond money for open space acquisition. Part of the municipal plan process is the identification of trail connectors to local and regional parks and trails.

Franconia Township's Recreation and Open Space Plan (1991) delineates a bicycle and pedestrian network for primarily off-road use. The plan envisions a trail network constructed along creeks and utility right-of-ways. Only when it is "unavoidable" will streets be used.

Horsham Township has prepared Strategies for Providing Recreational and Open Space Amenities (1991). The strategy describes a network of bicycle and walking trailways that connect open spaces, park sites, and residential areas. These trails are intended to contribute to improving the accessibility of parks.

Limerick Township's Comprehensive Park, Recreation and Open Space Plan (1991) proposes a trail system along the Schuylkill River. The trail system will link Limerick with other upstream and downstream communities and provide for a variety of recreational activities.

Lower Pottsgrove Township has prepared a Bikeway/Trail Plan (1989). The plan is proposed to serve the community's recreation needs. A key aspect of the plan is connecting parks and recreation sites in the Sanatoga Village area. The trails will be located within the stream corridors located between park and recreation sites. New programmed recommendations contained in **Lower Providence's** Recreation Plan (1993) are intended to result in a trail network that offers both recreational and commuter opportunities. The plan indicates that the Township will strive to establish well integrated community-wide trails that will connect neighborhoods, parks, and recreational facilities. Specifically, the trails should connect with the trails at Evansburg State Park and with the proposed Perkiomen Trail and extended Schuylkill River Trail.

Montgomery Township's Park and Recreation Plan (1986) recognizes that the Township's circulation system "presently acts as a barrier to ease pedestrian or bicycle circulation." Consequently, it recommends that the Park and Recreation Board create a system of bike networks using both on-road and off-road facilities. The plan identifies priorities for creating bicycle facilities. Highest priority facilities are those located along stream valleys and other off-street trails. Bike lanes on local and collector streets are also considered a priority, although a lower priority than off-street trails. Bike lanes on major arterial streets are recommended only where necessary to provide access to parks or to cross major highways.

In its "Open Space and Recreation Plan" (1993), **Upper Dublin Township** identifies two local and one regional trail. The regional trail will connect with Fort Washington State Park. The purpose of at least one of the local trails is to serve the employees of the Honeywell Office Park.

Upper Pottsgrove Township prepared a Parks Recreation and Open Space Plan (1991). Although the plan does not identify specific bicycle facilities, it does recommend that a greenway trail in the Township be initiated. The plan suggests that the greenway be created along Sproegel's Run and/or other local creeks.

The Draft Open Space and Recreation Plan for **Upper Providence Township** proposes the expansion of the existing trail system that runs along the Schuylkill River. The expansion is designed to connect isolated open space and parkland throughout the Township and link the trail system with regional recreation sites beyond the Township boundary.

POLICIES, REGULATIONS AND PRACTICES

Throughout southeastern Pennsylvania there are a number of communities that have implemented programs to improve pedestrian and bicycle safety and ensure access. The list is not exhaustive and is intended to highlight some of the pedestrian and bicycle initiatives currently being undertaken in southeastern Pennsylvania.

PENNSYLVANIA

Under TITLE 75: Vehicles of the Pennsylvania Consolidated Statutes Annotated (PA CSA), a pedalcycle is defined as any vehicle solely propelled by human power, such as a bicycle. Pedalcycles along roadways have the rights and duties of a motor vehicle. Pedalcycles operating on a roadway with two-way traffic should ride as near to the right side of the road as possible. On roadways with one-way traffic, having two or more lanes, pedacycles should ride to the far left or right. Pedalcycles are not allowed to ride more than two abreast on roadways and are required to use any safe lane or path provided adjacent to the roadway. All pedalcycles that operate from sunset to sunrise must be equipped with a lamp in the front, and reflectors visible from the rear and either side of the pedalcycle. Pedalcycles are not allowed to use sirens. Upon sidewalks, pedalcycles are to yield to any pedestrian and give audible signal when passing, unless within a business district, where pedalcycle riding is prohibited on sidewalks unless otherwise noted.

A license tax of one dollar per year can be imposed by each local municipality upon resident pedalcycle owners according to an 1897 court decision. Any person found violating one of the pedalcycle regulations can be fined ten dollars.

Under TITLE 75: Vehicles of the PA CSA a pedestrian is defined as "any natural person afoot." Local authorities may require pedestrians to obey traffic and pedestrian control signals through ordinances. Pedestrians have the right of way over vehicles at street crossings, but must yield to other vehicles when crossing the roadway at any point other than an intersection crosswalk. In an urban district, where traffic signals are in place at each intersection, crossing at any point other than an intersection is illegal. It is mandatory to use sidewalks adjacent to roadways, when available. In the absence of sidewalks, pedestrians must walk as close to the edge of the road as possible, and on the left side along a two-way street and must yield right of way to vehicles. Solicitation of employment, business or contributions from the occupant of a vehicle is illegal. Vehicles must yield to pedestrians when crossing sidewalks, or emerging from an alley, driveway or building. Pedestrians must yield to emergency vehicles.

BUCKS COUNTY

Doylestown Township: The Township's Subdivision Ordinance requires sidewalks for all new construction. The Township, along with Doylestown Borough, is planning a bike/hike trail.

Middletown Township: The Township's Subdivision and Land Development Ordinance requires all future subdivisions to establish bicycle paths, lanes, and routes unless the requirement is waived by the Board of Supervisors. All bikeways are required to meet minimum design and safety specifications.

Lower Makefield Township: The Township's Subdivision Ordinance identifies bikeway requirements for all future subdivisions in residential, commercial or industrial districts.

Tinicum Township: The Township's flexible zoning ordinance is being redrafted to incorporate 50 percent open space in all new subdivisions. Although the Township's ordinance does require sidewalks or dirt paths adjacent to roadways of at least four feet in width, there are currently no sidewalks in the Township.

New Britian Township: The Township's Subdivision and Land Use Ordinance requires sidewalks; however, this requirement can be waived in rural areas of the Township. Residential and commercial areas are required to install sidewalks. The Township is currently working with developers to link developed areas to a central township park.

Yardley Borough: The Borough's Canal Enhancement Ordinance requires all subdivisions and land development within the Canal Enhancement Area to construct sidewalks, pathways, and/or bikepaths that will provide access to Delaware Canal State Park.

CHESTER COUNTY

The Chester County Planning Commission has adopted and circulated a report which provides policy recommendations and design guidelines on bicycle facilities. The Circulation Handbook addresses circulation matters related to land use including different matters concerning bicycle and pedestrian access.

Downingtown Borough: The Borough's Subdivision Ordinance states that "at the discretion of the Council, a system of bicycle, equestrian and pedestrian paths - for public use, separate from the street - shall be established and secured by dedication or easement."

London Britain Township: The Township's Trail Amendments to the Zoning and Subdivision and Land Development Ordinance protects existing trails from elimination during development by establishing a permanent open space system and encouraging a trail network throughout the county.

DELAWARE COUNTY

Springfield Township: The Township's Subdivision and Land Development Ordinance requires bicycle lanes along roads with high motor vehicle volumes and speed limits of 25 - 40 miles per hour. All trails, paths, and lanes must meet minimum safety and design criteria.

MONTGOMERY COUNTY

Abington Township: The Township's Proposed Zoning Ordinance requires shopping centers and malls to provide pedestrian and bicycle paths to adjoining highways and commercial and residential areas.

Lower Frederick Township: Lower Frederick has adopted a Subdivision and Land Development Ordinance which outlines Common Open Space Design Requirements for permanently preserved open space.

Lower Salford Township: The Township's Zoning Ordinance requires open space reserved in multifamily and mixed dwelling developments.

Upper Merion Township: While the subdivision and land use ordinance requires sidewalks for new construction, waivers are granted in certain cases.

New Hanover Township: The Township's Subdivision and Land Development Ordinance establishes bikeway requirements. All future subdivisions in residential, professional, office, commercial, or industrial districts are required to establish bicycle facilities.

Upper Providence Township: When residential development is built near one of the Township's many parks, the Township will negotiate with the builder for a path to the park. Also, when corporate centers are forming, the Township will try to negotiate pedestrian access to key activity centers in the campus but not to the existing neighborhood.

PHILADELPHIA

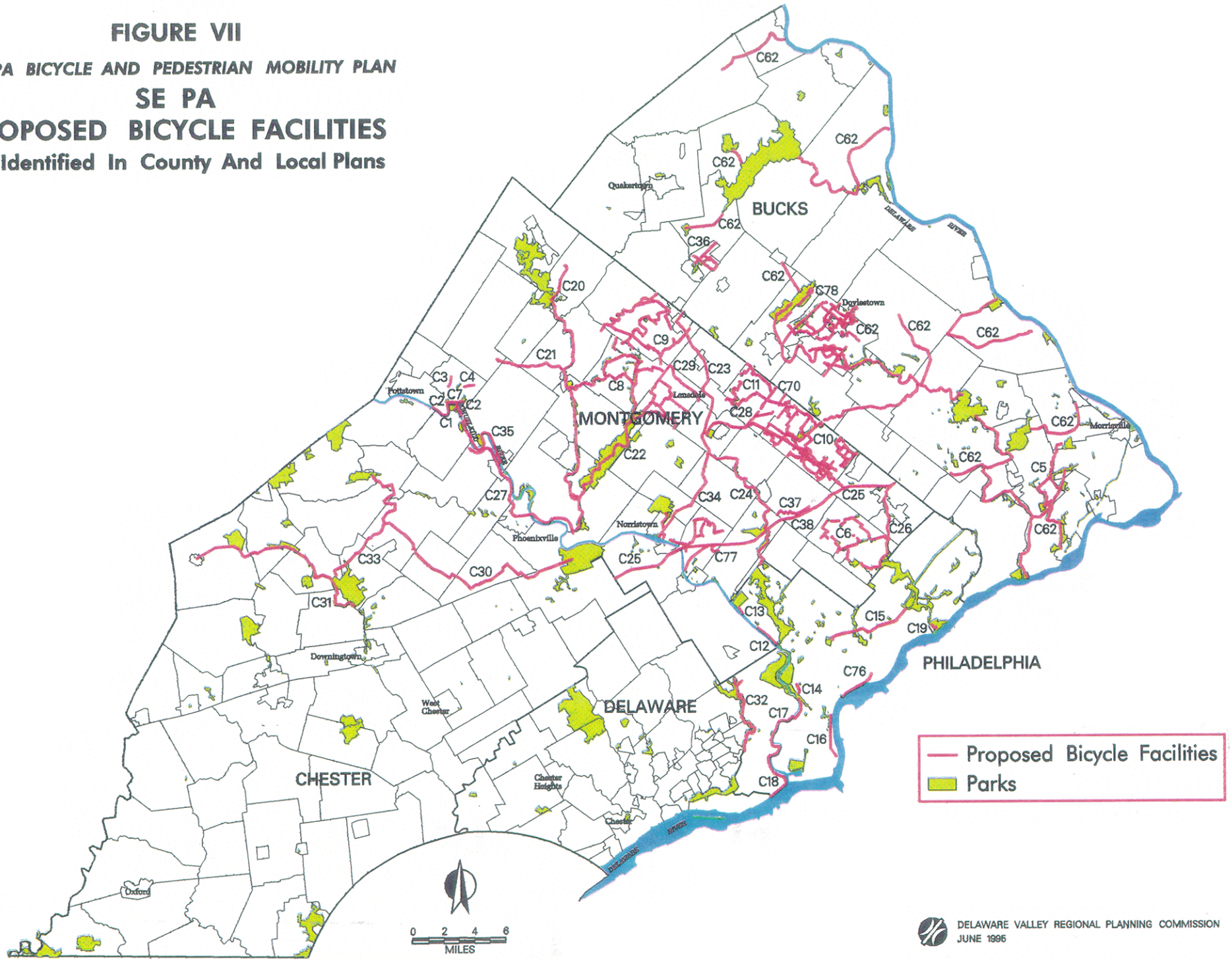
Chapter 12-800 of the Philadelphia Traffic Code describes bicycle regulations and penalties within the City of Philadelphia. Bicycles on highways have the same rights and responsibilities as motor vehicles and are required to obey all traffic laws, signs and signals. Bicycles must ride single file on a roadway and are required to use bicycle paths, when paths are provided adjacent to the roadway. All bicycles are prohibited from riding on the sidewalk in business districts, and bicyclists over the age of twelve are prohibited from riding on all sidewalks within the city, except within the jurisdiction of the Fairmount Park Commission.

Mounted bicyclists must yield to pedestrians and cars when entering or crossing sidewalks or roadways. A dismounted bicyclist has the privileges and responsibilities of a pedestrian. All bicycles must have a bell or warning device, and the use of audio headphones is prohibited while riding. Any violation of these bicycle regulations can result in fines or imprisonment.

FIGURE VII

SE PA BICYCLE AND PEDESTRIAN MOBILITY PLAN

SE PA
PROPOSED BICYCLE FACILITIES
As Identified In County And Local Plans



DELAWARE VALLEY REGIONAL PLANNING COMMISSION
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Key to Proposed Bicycle Network (Figure VII)

PROPOSED BIKE FACILITIES AS CHARACTERIZED IN MUNICIPAL AND COUNTY RECREATION, OPEN SPACE AND MASTER PLANS

(C-1) Lower Pottsgrove Township, Montgomery County
Schuylkill River Greenway
This project proposes the use of a rail right-of-way for a bike trail that will link open spaces along the river. It also includes the reconstruction of the Sanatoga Bridge deck, which will provide a connection to the Schuylkill River Trail in East Coventry Township, Chester County.

(C-2) Lower Pottsgrove Township, Montgomery County
Porter Road and Sanatoga Road Trails
These trails will provide connections from High Street to Riverfront Park,Sanatoga Park and the Schuylkill River.

(C-3) Lower Pottsgrove Township, Montgomery County
Ringing Rocks Park area to Pottsgrove Intermediate School
This route will connect an intermediate school with Ringing Rocks, which is under consideration for acquisition as permanent open space.

(C-4) Lower Pottsgrove Township, Montgomery County
Proposed school site to Pruss Hill Dam (Hartenstine Lake)
This route would link a proposed elementary school at the corner of Bleim Rd. and Pleasant View Rd. to Hartenstine Lake along Pruss Hill Road. The Township has long-range plans to acquire land for a future park near this lake.

(C-7) Lower Pottsgrove Township, Montgomery County
High Street Bikelanes
A bike lane is proposed for the length of High Street, which would link commercial and high density housing areas.

(C-5) Middletown Township, Bucks County
Bikeway system consisting of three segments including East Middletown (Levittown), town core and North Middletown (Core Creek).

(C-6) Abington Township, Montgomery County

(C-8) Lower Salford Township, Montgomery County
1993 Comprehensive Plan Proposed Bike Trail

(C-9) Franconia Township, Montgomery County
Souderton and Telford Boroughs
Proposed Trail Network

(C-10) Horsham Township, Montgomery County
Open Space and Recreation Plan

(C-11) Montgomery Township, Montgomery County
Park and Recreation Plan

(C-12) Proposed Trails Wissahickon & Manayunk Connector
This trail will link the Fairmount Park Trail to the Schuylkill River Trail (Manayunk Canal Towpath).

(C-13) Proposed Trails Philadelphia - Shawmont to Port Royal
This trail will link the Schuylkill River Trail (Manayunk Canal Towpath) to the Valley Forge Bikeway.

(C-14) Proposed Trails Philadelphia - Fairmount Waterworks to Schuylkill River Park at 26th & Pine
Creation of an off-road trail system along the Schuylkill River from Valley Forge to the Delaware River.

(C-15) Proposed Trails Philadelphia - Roosevelt Connector
The intention of this route is to provide a major connection between Northeast Philadelphia and Center City.

(C-16) Proposed Trails Philadelphia - Columbus Boulevard Connector

(C-17) Proposed Trails Philadelphia - Schuylkill River Park to Bartram's Garden

(C-18) Proposed Trails Philadelphia - Bartram's Garden to Fort Mifflin

(C-19) Proposed Trails Philadelphia - Lower Pennypack Park Connector

(C-20) Perkiomen Trail, Montgomery County
The principal trail route is along a county owned rail right-of-way between Pennsburg and Collegeville and a private owned railroad right-of-way south of Collegeville to Oaks. The trail is 25 miles in length and connects with town centers, recreational and historical sites, and other trails.

(C-21) Sunrise Trail, Montgomery County
This four mile trail runs along Swamp Creek Valley and county parkland. It provides connections to historic sites and trails.

(C-22) Evansburg Trail, Montgomery County
This 17-mile trail runs along the Skippack Creek Valley, Lower Salford parkland, the Frederick T. Dannert Memorial Trail and the East Branch Perkiomen Creek Valley. It provides connections to Perkiomen Trail and trails within Evansburg State Park. The Perkiomen Trail serves as the terminus for both ends of this trail.

(C-23) Liberty Bell Trail, Montgomery County
This 17-mile trail runs from Bucks County (north) to Schuylkill River Trail (east). The corridor is located along a PECO right-of-way and local streets and roads. The trail will connect with other trails and other points of interest.

(C-24) Wissahickon Trail, Montgomery County
This 10.5-mile trail runs along the existing Wissahickon Creek Preserve Trail and the Wissahickon Creek Valley. It connects parks and regional trails.

(C-25) Cross County Trail, Montgomery County
Trail runs along railroad rights-of-way, utility corridors and roads and is approximately 20 miles long, from Chester County to Bucks County. It provides connections to key points of interest and other trails.

(C-26) Pennypack Trail, Montgomery County
The principal corridor for this seven mile trail is along a SEPTA owned right-of-way and Pennypack Creek Valley. Bucks County (north) and Philadelphia's Fairmount Park System/Pennypack Valley Park provide the end points for this trail. The trail connects with points of interest and other trails.

(C-27) Schuylkill River Trail and Schuylkill East Trail, Montgomery County
This 39-mile trail includes a portion in Chester county. Its principal route is along an existing 11-mile trail from Valley Forge Historical Park to Philadelphia and abandoned PECO owned railroad right-of-way. It connects with regional trails and recreational and historical sites.

The Schuylkill East Trail is 13 miles long and runs along county and municipal parkland and the Schuylkill Canal towpath and connects recreational sites and regional trails.

(C-28) Power Line Trail, Montgomery County
This 11-mile trail runs along a PECO owned right-of-way, roads, and private property. It connects with regional trails and municipal parks.

(C-29) Towamencin Trails, Montgomery County
This network of trails through Towamencin Township will provide a linkage between the proposed Liberty Bell Trail and the Evansburg Trail. The system also will serve the proposed Kulpsville Town Center.

(C-30) Horseshoe Trail, Chester County
Open Space and Recreation Study 1982, only partly for use by bicycles.

(C-31) Struble Trail, Chester County
Open Space and Recreation Study 1982

(C-32) Cobb's Creek, Philadelphia

(C-33) Chester County Trail
Primarily hiking use linking the Struble Trail and the Horseshoe Trail.

(C-34) Plymouth Township, Montgomery County

(C-35) Limerick Township, Montgomery County
Comprehensive Park, Recreation and Open Space Plan

(C-36) Perkasie Borough, Bucks County
Proposed Linkages

(C-37) Upper Dublin Township, Montgomery County
Proposed Trail #10

(C-38) Upper Dublin Township, Montgomery County
Proposed Trail #12

(C-62) Bucks County Proposed Linkages
Bucks County Comprehensive Plan, 1993

(C-76) Proposed Philadelphia Bike Lane on Columbus Boulevard - Fairmount Avenue to Columbia Avenue

(C-77) Plymouth Trail, Montgomery County
This three mile trail runs along a Conrail-owned railroad right-of-way and PennDOT property. It connects with other trails.

(C-78) Doylestown Community, Bucks County
Joint Comprehensive Pedestrian/Bicycle Transportation Plan.

CHAPTER V

OPPORTUNITIES FOR INTERMODAL CONNECTIONS

Providing bicycle and pedestrian access to other modes of transportation can have a positive impact on decreasing congestion and improving air quality. According to 1990 Journey to Work information, within the region, more than 230,000 workers commuted to work by regional rail and more than 200,000 carpooled. In most cases, the worker relied on some form of transportation to connect with the car pool or train.[11] The short cold-start trip, the type associated with the drive to the transit station or park-and-ride lot, produces nearly as much pollution as the much longer trips which car pools or public transit replaces. In the DVRPC region, the typical park-and-ride user travels between one and six miles - a viable commuting distance on foot or by bicycle.[12] For bicycling or walking to be considered as a transportation option, appropriate facilities must be available to support these activities. At the very minimum, these facilities should include safe and secure bicycle and pedestrian trails, paths and lanes, and access to stations and park-and-ride lots and sufficient bicycle parking. In this chapter, the availability of parking at transit stations and park-and-ride lots and policies affecting bicycles on public transit are explored.

TRANSIT STATIONS

Although more than 150 transit stations are located throughout the region, only 47 have installed bicycle parking racks. The Southeastern Pennsylvania Transportation Authority (SEPTA) provides almost all rail and public transit services to the Pennsylvania side of the region. The Regional Rail Division operates the following commuter rail lines:

R1: service between Center City Philadelphia and Philadelphia International Airport.

R2: service between Wilmington/Marcus Hook and Center City Philadelphia; service between Center City Philadelphia and Warminster.

R3: service between Elwyn and Center City Philadelphia; service between Center City Philadelphia and West Trenton.

R5: service between Parkesburg/Paoli and Center City Philadelphia; service between

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[11] U.S. Department of Transportation, "Case Study No. 16: A Study of Bicycle and Pedestrian Programs in European Countries," January, 1992.

[12] Delaware Valley Regional Planning Commission, "Park and Ride Assessment: Highway Related Facilities Evaluation of Areas # 1-75," June, 1993, page 8.

Center City Philadelphia and Lansdale/Doylestown.

R6: service between Norristown and Center City Philadelphia; service between Center City Philadelphia and Cynwyd.

R7: service between Trenton and Center City Philadelphia; service between Center City Philadelphia and Chestnut Hill East.

R8: service between Chestnut Hill West and Center City Philadelphia; service between Center City Philadelphia and Fox Chase.

There are also three rail lines operating out of 69th Street. Two of them are light rail lines (Sharon Hill and Media). The third, Route 100, runs for 14 miles to the Norristown Transportation Center.

Bicycle parking racks are available at selected stations on all Regional Rail Lines, except the R6 Norristown Line. The location of rail stations with bicycle racks appears in Figure VIII. The key to Figure VIII lists the stations with bicycle parking.

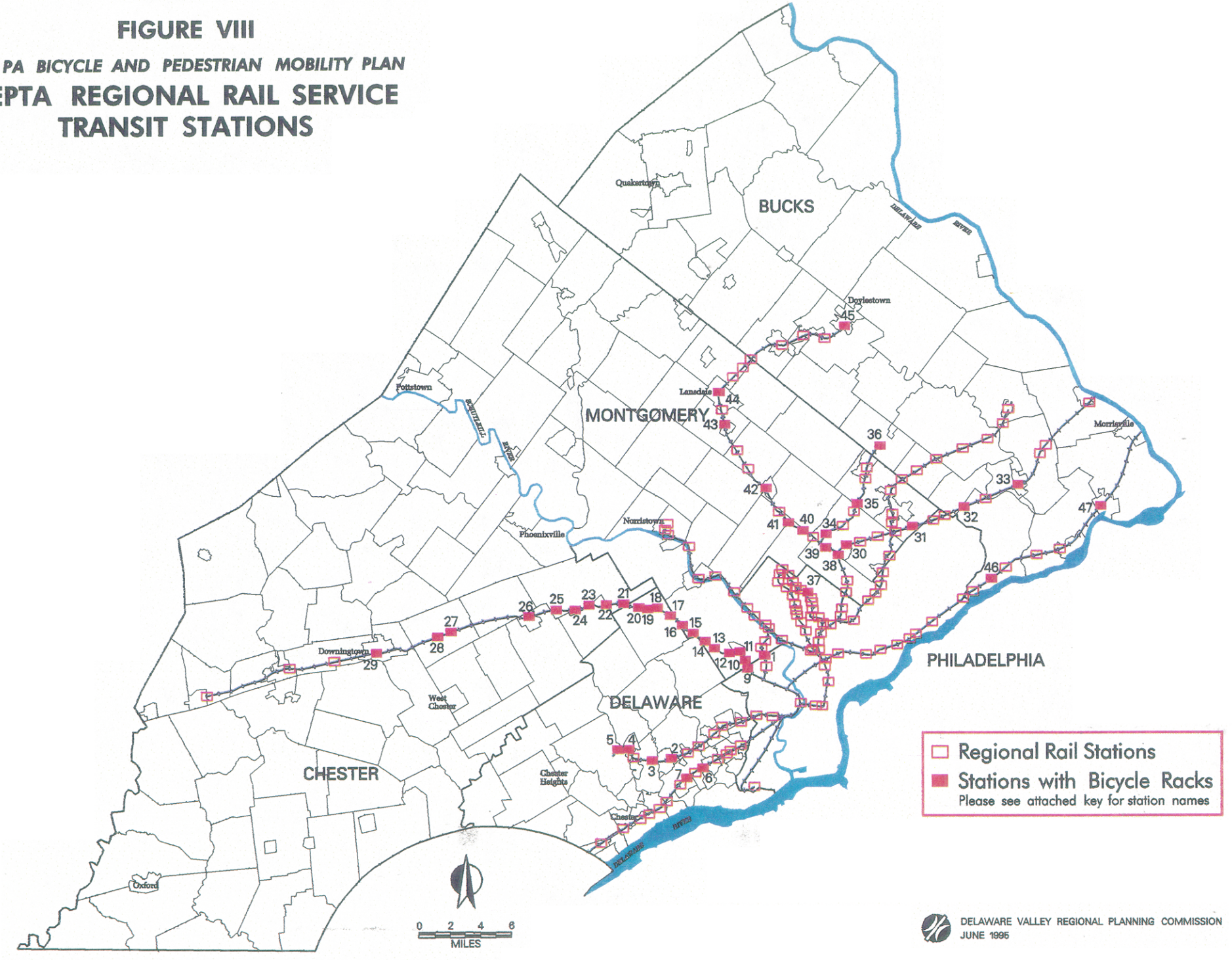
In 1993, SEPTA conducted an inventory of bicycle rack usage, and found that bicycle racks were not being used in 69 percent of the stations. Although SEPTA did not suggest why some bicycle racks were not used, anecdotal information reveals that in some cases bicycle parking is not conveniently located and requires the bicyclist to park his bike in an isolated location or a great distance from the platform. In such cases bicyclists seem to prefer to secure their bicycles to sign posts and meters which are closer to the station platform. SEPTA recently introduced a policy that will provide for the installation of bike racks in all SEPTA station parking expansion projects.

A recent evaluation of 16 SEPTA stations by DVRPC staff revealed that select stations, such as Jenkintown, provide excellent pedestrian access and furnish bicycle parking facilities. However, many of the stations surveyed were located in residential areas but were not accessed by bicycle lanes, trails, or paths. In some cases, even pedestrian access was severely compromised by narrow shoulders and lack of sidewalks. The Neshaminy Falls Station, for example, is abutted by a small residential neighborhood. While there are no sidewalks leading to the station, an informal stairway/ladder has been installed to provide access from the station to a private yard on Grove Street. At other stations, such as Eddington, sidewalks are available at the entrance/exit to the station. The sidewalks quickly terminate and filter the pedestrians into heavy traffic on Street Road. The steep stairway leading to the platform makes bicycle access difficult and hazardous. The Eddington Station is also adjacent to the I-95 Business Center. The only access between the Center and the station is via an informal dirt road. (Table XIV provides information about the stations surveyed.)

FIGURE VIII

SE PA BICYCLE AND PEDESTRIAN MOBILITY PLAN

SEPTA REGIONAL RAIL SERVICE TRANSIT STATIONS



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Key to Figure VIII
SEPTA STATION BICYCLE RACK INVENTORY

R6 IVY RIDGE LINE
1. Bala

R3 MEDIA/ELWYN LINE
2. Swarthmore
3. Wallingford
4. Media
5. Elwyn

R2 MARCUS HOOK LINE
6. Glenolden
7. Moore-Prospect Park
8. Claymont (DE)

R5 PAOLI/DOWNINGTOWN LINE
9. Overbrook
10. Merion
11. Narberth
12. Wynnewood
13. Ardmore
14. Haverford
15. Bryn Mawr
16. Rosemont
17. Villanova
18. Radnor
19. St. Davids
20. Wayne
21. Strafford
22. Devon
23. Berwyn
24. Daylesford
25. Paoli
26. Malvern
27. Exton
28. Whitford
29. Downingtown

R3 WEST TRENTON LINE
30. Noble
31. Philmont
32. Trevose
33. Langhorne

R2 WARMINSTER LINE
34. Ardsley
35. Willow Grove
36. Warminster

R7 CHESTNUT HILL EAST LINE
37. Stenton

R5 LANSDALE/DOYLESTOWN LINE
38. Jenkintown
39. Glenside
40. North Hills
41. Oreland
42. Ambler
43. North Wales
44. Lansdale
45. Doylestown

R7 TRENTON LINE
46. Cornwells Heights
47. Levittown

Please Note: Bicycle **lockers and racks** will be installed at Paoli, Bryn Mawr (R5), and Fox Chase (R8) stations.

Bicycle **racks** will be installed at the Norristown Transportation Center which serves the R6 line, Rt 100 High Speed Line, and bus routes 91, 96, 97, 98 and 99.

TABLE XIV
ACCESS TO SELECT SEPTA STATIONS

Station Name	Rail Line	Description
Chestnut Hill West	R7 Chestnut Hill West	Pedestrian access is adequate via Germantown Av sidewalks. The station is located within a shopping district and is in close proximity to residential areas. Germantown Av has moderate volume traffic
Cornwells Heights	R7 Trenton	Sidewalks extend eastward from the station toward an employer and an apartment complex. Another apartment complex and a residential area are located westward on Station Av. with no sidewalks or shoulders. Station Av is a low volume road with a 25 mph posted speed limit
Eddington	R7 Trenton	The station is accessed by two steep sets of stairs from the Street Rd. bridge over I-95. There is no handicap access, and the sidewalks along Street Road bridge connecting the stairs terminate into heavy traffic An informal dirt road leads from the platform to an employer in the adjacent I-95 Business Center. There is no auto or bike parking. It is close to many other industrial parks.
Eddystone	R2 Marcus Hook	The station is bounded on one side by a residential area and on the other side by industrial areas and a gas station There are sidewalks leading to both sides There is no handicap access.
Hatboro	R2 Warminster	The station is within one block of the shopping district and a residential area There is good pedestrian access along sidewalks, and the adjacent street has a low traffic volume.
Jenkintown	R2/R3/R5	One side of the station is residential, the other side includes commercial and business parks. There is excellent auto parking. Sidewalks extend over 1 mile from station providing excellent pedestrian potential
Marshall Street	Green Line (light rail)	Good sidewalks and crosswalk over tracks. A potential safety problem is the lack of stop gates for traffic on Marshall Street.
Merion	R5 Paoli	The station is located within a residential area, with sidewalks extending from the station.
Neshaminy Falls	R3 West Trenton	The station is abutted by a small residential street with no sidewalks. Informal stairs lead to a private yard on Grove Street. Access to the station is via Bristol Road, which is a high volume roadway with no shoulders.
Noble	R3 West Trenton	The station is close to a residential area and adjacent to a professional complex. Pedestrian access is via sidewalks along 611, a high volume route.
Strafford	R5 Paoli	The station is located across from an office complex, apartment complex and a school. There are no crosswalks over Old Eagle School Rd., which has high traffic volume and no sidewalks leading to the residential areas.
Villanova	R5 Paoli	This station has an extensive sidewalk network to the campus, but barriers to access station from adjacent residential area. Excellent auto parking.
Willow Grove	R2 Warminster	Access to the station is via sidewalks along Davisville Rd and Rts 263/611, which all have a high traffic volume.
Wyndmoor	R7 Chestnut Hill West	This station is within a residential area A bike parking sign is posted, but there are no areas to lock a bike.
63rd Street	Market-Frankford	A bike parking sign is posted, but there are no areas to lock a bike.
69th Street Terminal	Market-Frankford	The station is within a shopping district, close to employers, and served by a crosswalk and a good sidewalk network.

PARK-AND-RIDE LOTS

Park-and-ride lots are off-street parking areas where a commuter arrives by automobile, parks and transfers to another vehicle for the purpose of ride-sharing. These lots serve van pools, car pools and transit services. Park-and-ride lots located in close proximity to the user's trip origin offer the potential for exchanging the automobile for the bicycle for the first leg of the journey if adequate bicycle parking facilities are available. The location of current park-and-ride lots are shown in Figure IX. Many of these are transit stations. None of the existing highway related facilities offer parking for bicycles.

Federal funding has been available for bike and ride facility development since the passage of the Surface Transportation and Uniform Relocation Assistance Act of 1987, but few transit agencies and local governments have taken advantage of the funds. With the passage of ISTEA, states and local governments have another opportunity to invest in bicycle facilities to link bicycles with transit and other commuter modes.

BICYCLE POLICIES ON PUBLIC TRANSPORTATION

Providing bicycle parking facilities at transit stations is just one way of linking bicycles with transit. Allowing commuters to carry bicycles onto transit is another way to create transit linkages. Combining bicycles with mass transit provides the commuter with more options, especially in cases where the final leg of the commute cannot be made on foot because the transit stop is not within walking distance of the work site or is not connected by another form of transportation.

A growing number of transit systems in American cities have allowed bicycles to be carried onto public transit. Philadelphia is one of a handful of cities that permits bicycles on its transit system. But there are still obstacles to overcome. While SEPTA allows bicycles on Regional Rail, the Broad Street Subway and Market Frankford-El, restricted hours apply, and bicycle use is confined to off-peak hours, making this an option only for those who do not work traditional nine-to-five jobs. Bicycles are allowed between 10:00 a.m. and 3:00 p.m. and after 7:00 p.m. Monday through Friday, all day Saturday and Sunday and some holidays. For those wishing to use their bicycles during peak hours, a folding bicycle can be carried on at all times and no permit is required. A one-time five dollar permit is required of all other bicyclists. Bicycles are not permitted on city buses, trolleys, and the Norristown High Speed Line. However, SEPTA has introduced a demonstration project that will provide bike racks on all Frontier Line buses beginning October 1995.

Since 1993, the Port Authority Transportation Company (PATCO) which services Center City Philadelphia from New Jersey has been testing "Bicycles on Rails." Bicyclists who join the program may bring their bicycles on board the High-Speedline during off-peak hours and on specific holidays. There is a five dollar annual fee and bicyclists must be

18 years or older.

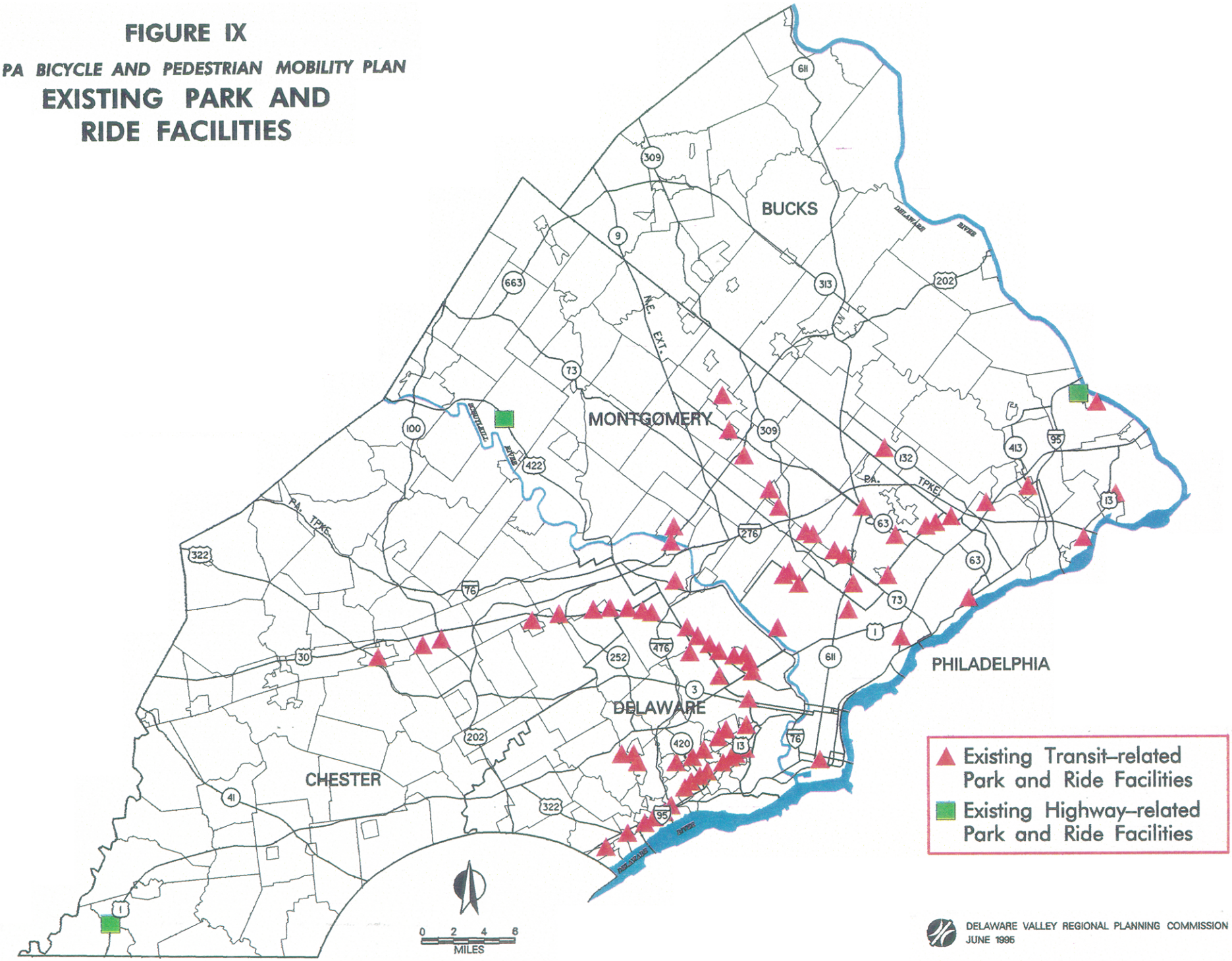
AMTRAK's policy is to allow only collapsible bicycles in its passenger cars. Bicycles are only allowed on trains if transported in baggage service, and then, only if boxed.

Riverbus, Inc. provides ferry service between the New Jersey State Aquarium located in Camden, New Jersey and Penn's Landing in Philadelphia. Bicycles are permitted on the ferry at all times.

FIGURE IX

SE PA BICYCLE AND PEDESTRIAN MOBILITY PLAN

EXISTING PARK AND RIDE FACILITIES



CHAPTER VI

THE ROLE OF RIGHTS-OF-WAY

The use of abandoned rights-of-way as bikeways offer great potential as transportation corridors. Historically, such corridors have been coveted for their recreational value. Trails constructed on abandoned rail corridors are particularly attractive because they provide continuous connections on previously assembled rights-of-way, often link population centers, employment centers and recreational resources, and are level and suitable for seniors and physically challenged persons. The National Park Service estimates that at least one third of abandoned rail rights-of-way are suitable for alternative public use.[13] Traditionally rails-to-trails projects have been funded through a variety of sources ranging from local and state park bond issues to private donations. ISTEA provides federal dollars to support rail-to-trails programs.

RAIL RIGHTS-OF-WAY

Approximately 280 miles of inactive rail lines have been identified in southeastern Pennsylvania (Figure X). A rail line that has been identified as inactive may not necessarily be abandoned. An abandonment must meet three criteria:

1. Rail service is discontinued;
2. Application is made to the Interstate Commerce Commission (ICC) for abandonment and the ICC approves the request; and
3. Pay schedules are canceled.

A rail line can be abandoned even if the tracks remain in place. Conversely, removal of the tracks does not indicate that an abandonment has occurred. While most of the inactive rail lines on the accompanying map have received ICC approval for abandonment, several are "out of service" and have not secured ICC abandonment approval. Some railroad companies may own the line as "fee simple owner." If the rail company does not own the line outright and it reverts to the reversionary interest upon abandonment, the rail company does not have the power to turn the right-of-way over to another interest. Most often, ownership varies along the length of the rail line. Rail lines along which trail projects are being developed are noted on Figure XI. Within southeastern Pennsylvania, more than 65 miles of rail-to-trails projects have been proposed and/or developed.

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[13] Montange, Charles, "Preserving Abandoned Railroad Rights-of-Way for Public Use," Rails To Trails Conservancy, 1989.

In 1983, Congress adopted section 8 (d) of the National Trails System Act. This subsection provides that the ICC can encourage rail preservation by authorizing a rail line's use as an interim trail until such a time when it may be reactivated as a rail corridor, even before an official abandonment has occurred.

UTILITY RIGHTS-OF-WAY

Utility rights-of-way can provide another source for trail development. Since utility companies frequently purchased land rights after a railroad abandonment, utility corridors often follow former rail lines. Cooperation between the utility company and potential trail user can result in benefits for both parties. Often utility companies, especially PECO Energy, own corridors in fee simple. However, some utilities have easements over private property for the installation of their utility lines. These cases require special permission from the utility and the underlying owner before a public use be added.

OTHER ACTIONS

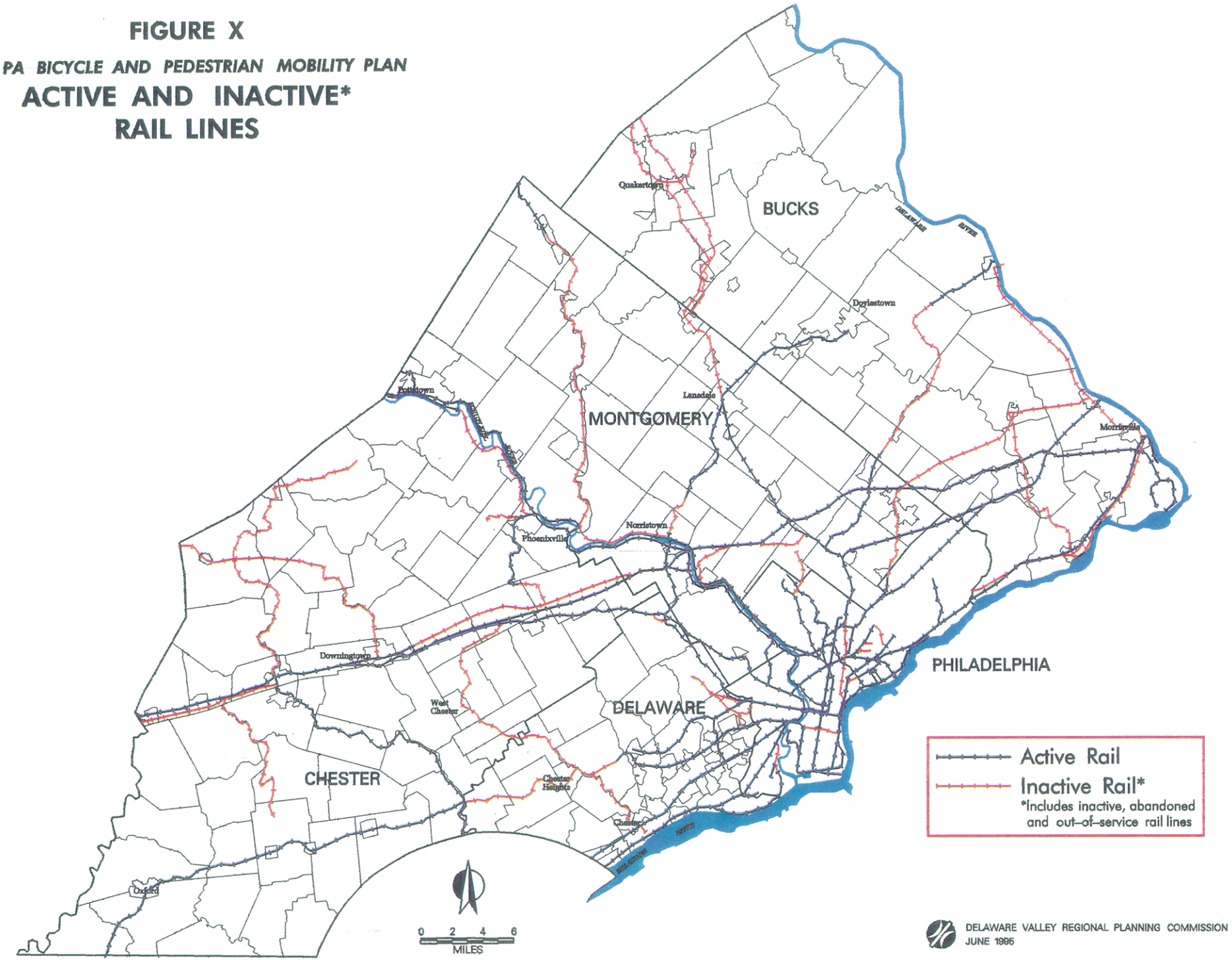
The National Park Service identified 147 potential trail and greenway corridors on public and private land that could be used to develop a regional system of trails in the Mid-Atlantic states. The National Park Service is directed to develop such a plan under the National Trails System Act. Among the goals of this program are that "trail corridors should be recognized as valuable resource protection mechanisms and as routes for alternative means of transportation, in addition to recreational facilities."[14] The potential trail routes that have been identified by the Park Service in southeastern Pennsylvania include: Schuylkill River Greenway, Newtown Greenway Trail, Brandywine Creek Trail, Hibernia Trail and the Chester Valley Trail.

[14] National Park Service and National Parks and Conservation Associations, "Toward A Regionwide Network of Trails for the Mid-Atlantic States," April, 1992.

FIGURE X

SE PA BICYCLE AND PEDESTRIAN MOBILITY PLAN

ACTIVE AND INACTIVE* RAIL LINES



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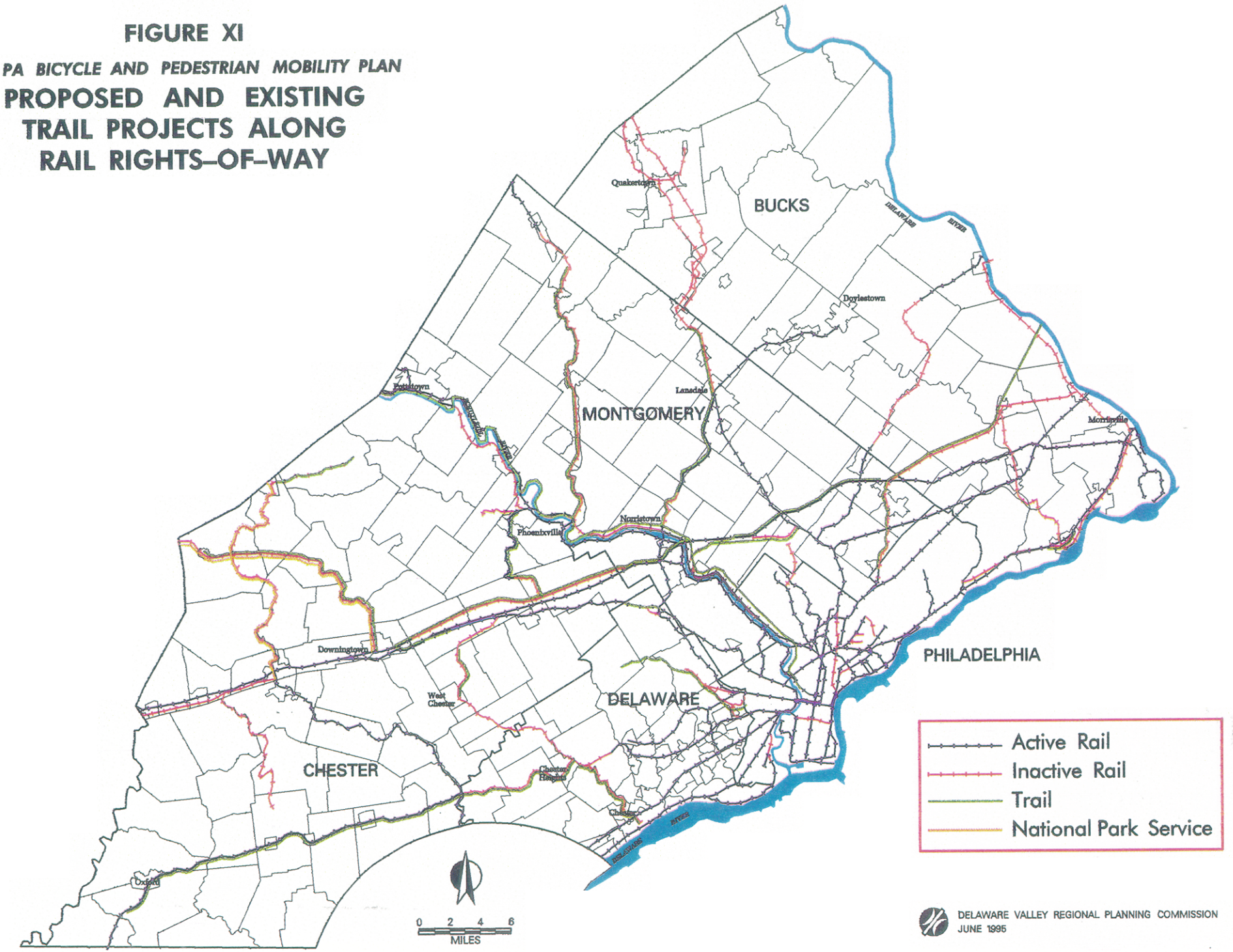
JUNE 1995

FIGURE XI

SE PA BICYCLE AND PEDESTRIAN MOBILITY PLAN

PROPOSED AND EXISTING TRAIL PROJECTS ALONG RAIL RIGHTS–OF–WAY



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CHAPTER VII

PLAN DEVELOPMENT

To address the needs of bicyclists and pedestrians in southeastern Pennsylvania, DVRPC convened a Bicycle and Pedestrian Mobility Steering Committee. The committee has been meeting since 1993 to review bicycle conditions in the region. Those who contributed to the Plan represent bicycle clubs and coalitions, county planning offices, PennDOT, and private concerns. For a complete listing of committee members, please refer to Appendix B.

The initial task of the committee was to review existing conditions within the region and then decide in which direction to proceed. As indicated in the first section of this report, bicycling within southeastern Pennsylvania is underutilized as an alternative transportation mode. Recognizing that this is primarily due to the dearth of bicycle facilities located within southeastern Pennsylvania, the committee set out to develop a network of bicycle facilities that would encourage the use of bicycles for efficient short distance transportation. Walking, as a commuter mode, is more widely practiced, especially in areas with high population densities and compact land uses. The purpose of the Southeastern Pennsylvania Bicycle and Pedestrian Mobility Plan is to promote and encourage bicycling and walking as transportation options. The goals, objectives and strategies that were identified by the committee are designed to address the actions that must be implemented to ensure that bicycle and pedestrian conditions are comprehensive, safe and accessible. The goals and objectives are discussed in the next chapter and the agencies, organizations and individuals that should be responsible for implementing them are identified.

Because pedestrians generally travel shorter distances than bicyclists, the pedestrian component of the Plan identifies the features and policies that are essential to create a pedestrian friendly environment rather than outline a pedestrian network. Some essential features include: connections to trip generators, safe and convenient infrastructure and compact land uses. While no single improvement will be sufficient to attract all people to walk instead of drive, the implementation of the recommendations contained in the goals, objectives and strategies can contribute to the creation of an environment that fosters pedestrian activity. The goals and objectives stress the actions that local, county and state agencies can undertake to promote walking.

Bicyclists, on the other hand, are more likely to travel longer distances and cross municipal and county borders. Because of the need to ensure that bicycle facilities do not end at political boundaries, the committee identified a bicycle network for southeastern Pennsylvania that will compliment the Plan's goals and objectives and encourage the use of bicycles for short to moderate distance transportation trips.

The plan consists of a bicycle network of almost 2,100 miles of proposed facilities, together with goals and objectives that are designed to increase bicycling and walking within southeastern Pennsylvania. Guiding the development of the bicycle network was the committee's assumption that bicycle routes located along state routes should comprise the backbone of the network. PennDOT has been an active participant in the bicycle planning process and possesses the commitment and funding to begin to create the network. Therefore, almost 1,400 miles of the facilities that appear on the bicycle network are located along roadways, primarily along state routes with some county routes as well. Other facilities are identified as off-road routes, which may traverse a utility easement or an abandoned rail right of way. Off-road facilities comprise more than 350 miles of the network. Finally, the committee identified corridors where bicycle facilities should be constructed. A corridor designation implies that there is a need to accomodate bicycle travel within the general area. However, actual construction of the bicycle facility could be along a state route, a local parallel route or an off-road connection. Approximately 334 miles of bicycle corridors are identified on the network.

Following the preparation of the network and the identification of a vision for southeastern Pennsylvania for the Year 2020, the committee identified strategies that are aimed at implementing the goal and objectives identified in the Plan. The network, as well as goals and objectives, are described in detail in the following chapters.

CHAPTER VIII

BICYCLE AND PEDESTRIAN VISION, GOAL, OBJECTIVES AND STRATEGIES

Following a review of existing bicycle and pedestrian conditions in southeastern Pennsylvania, the Bicycle and Pedestrian Mobility Steering Committee proceeded to define a vision of what they hoped the bicycling and walking environment would look like in the year 2020.

Year 2020 Vision: Southeastern Pennsylvania should be a region that hosts a transportation system that provides a range of transportation options - including bicycling and walking - that are convenient and safe and provide access to jobs, transportation facilities, schools, parks and key destinations within the community.

After developing the vision statement, the steering committee was faced with the challenge of determining how the vision would be achieved. The steering committee outlined one major goal for the achievement of the vision and a series of objectives and strategies for implementing the goal.

The objectives target specific issue areas including: land use, transportation, safety and security, enforcement, education, funding, and evaluation. The strategies that correspond to each objective represent specific actions that should be implemented to ensure that bicycle and pedestrian facilities and conditions are improved.

OVERALL GOAL

1. ***By the Year 2020, southeastern Pennsylvania will accommodate trips made by bicycle or on foot, by insuring that bicycle and pedestrian facilities are safe and adequate. The region should also meet and exceed the federal goal of doubling the percentage of transportation trips now made by bicycle or on foot.***

Objectives

1 a. PennDOT, SEPTA, and any county with jurisdiction over transportation facilities, should identify a clear mission to also serve bicyclists and pedestrians and adopt policies to ensure that these interests are provided for in all future transportation improvements, to the degree possible.

1 b. All counties should appoint a county bicycle and pedestrian coordinator who is responsible for and has authority to oversee all county policy with regard to bike mobility for that county and who will be in a position to review subdivision and land development plans and open space plans on the municipal and county levels. Regional Transportation Management Associations (TMA's) also have an important role to play as the public-private link to coordinate and act as a liaison with the business community to promote bicycle programs. These coordinators should work in concert with the PennDOT Bicycle Coordinator so that an integrated effort is achieved.

1 c. DVRPC should continue to plan for a regional bicycle network and implement the Plan through funding of bicycle and pedestrian initiatives on the regional Transportation Improvement Program (TIP).

LAND USE OBJECTIVE

Objective

L1. Bicycle and pedestrian networks and programs should be incorporated into local policies, comprehensive plans and transportation elements, assuring opportunities for bicycle and pedestrian circulation in areas characterized by medium and high density or mixed-use land uses that are within close proximity to transit stations, employment centers, schools and universities and major shopping or recreational facilities. Such bicycle and pedestrian facilities should be safe and convenient and provide direct and accessible linkages between key points in the community.

Strategies

L1 a. Municipalities should investigate methods of preserving rights-of-way for bicycle and pedestrian access.

L1 b. Communities should provide sidewalks to connect medium and high density residential areas with public transit stations and major activities located within close proximity of such residential areas.

L1 c. Local governments should revise their development controls so as to promote compact mixed use development which will be conducive to pedestrian and bicycle travel and will alleviate traffic congestion.

L1 d. Through their site design standards and subdivision and land development ordinances, municipalities should require developers to provide sidewalks and trails that are linked to key points within the community.

TRANSPORTATION OBJECTIVES

Objective

T1. Bicycle travel should be fully integrated into the regional transportation system by providing a safe and convenient region-wide network of paved shoulders, bike routes and bike lanes, supplemented by a network of mixed-use, off-road bicycle/pedestrian trails.

Strategies

T1 a. PennDOT should take the lead in establishing an on-road bicycle network by incorporating bicycle facilities into all road projects identified as part of the regional network and give first consideration to the primary routes identified in the Plan.

T1 b. Where possible, PennDOT should incorporate bicycle considerations into the PennDOT design projects identified by the Southeastern Pennsylvania Bicycle and Pedestrian Mobility Steering Committee.

T1 c. PennDOT should provide timely updates to municipalities when state routes will be retrofitted to accommodate bicycles so that local municipalities can formulate plans to link local roads into bicycle compatible state routes.

T1 d. Municipalities should ensure that local bicycle projects are designed to connect with the network that has been planned for southeastern Pennsylvania. Bicycle accommodations and facilities should be included in all new local arterial construction and reconstruction projects that connect with the Southeastern Pennsylvania Bicycle Network.

T1 e. The Delaware Valley Regional Planning Commission and/or the County Planning Commissions should work with PADEP to improve the procedure for notifying municipalities and other interested groups of potential rail abandonments which can be developed as bicycle and pedestrian trails.

T1 f. All bridge operators and those responsible for bridges should ensure that all bridge replacements and bridge repairs incorporate bicycle facilities into the new design. Furthermore, these same parties should explore current bridge policies and eliminate those that needlessly impede pedestrian activity and the use of bicycles on bridges.

Objective

T2. Bicycle parking and storage facilities should be conveniently located throughout southeastern Pennsylvania. Parking location decisions should reflect safety and security considerations.

Strategies

T2 a. Transportation providers, school districts, employers, municipalities, and developers should provide bicycle parking at all appropriate locations (i.e. shopping centers, office buildings, schools, libraries, municipal facilities, community facilities, park-and-ride lots, and rail stations).

T2 b. SEPTA, Amtrak and Philadelphia International Airport should provide bicycle storage lockers in areas where long term storage may be desired.

T2 c. Providers of bicycle parking and storage should locate lockers and bicycle racks in well lighted areas that are visible from the street and can be observed by police patrols.

Objective

T3. Where bicycling can be combined with transit to reduce single occupancy vehicle trips, provisions should be made for trains, buses and subways to carry bicycles.

Strategies

T3 a. SEPTA should conduct surveys on all transit routes to determine potential demand for bicycles on transit, as well as monitor usage on those routes which currently permit bicycles during the off-peak periods, including the regional rail, subway-elevated and Norristown High Speed Line.

T3 b. ISTEA funding for bicycle mobility should be provided to local transit operators to develop pilot bicycle/transit projects along routes with sufficient demand.

T3 c. AMTRAK should revise its policy regarding bicycles on trains to allow non-boxed bicycles to be carried aboard.

T3 d. All transportation providers that allow bicycles on public transportation should publicize this service.

T3 e. If usage and demand proves to be strong, SEPTA should expand its bike on bus demonstration project to include buses outside the Frontier Division.

Objective

T4. Safe and convenient pedestrian facilities, including sidewalks, walkways and trails, should be fully integrated into the regional transportation system as a means of accommodating and encouraging pedestrian travel.

Strategies

T4 a. PennDOT should adopt a policy to build and improve sidewalks along state roads in urban areas and along other state system projects that will enhance and contribute to the pedestrian "friendliness" and accessibility of a community.

T4 b. PennDOT should ensure that all PennDOT standards and design documents incorporate pedestrian features.

T4 c. PennDOT and local governments should ensure that crosswalks are safe by striping crosswalks and creating relatively short crossing distances.

T4 d. PennDOT and municipalities should ensure that all pedestrian facilities are designed and constructed in accordance with the requirements of the Federal Americans with Disabilities Act and its implementing regulations.

T4 e. PennDOT should provide technical pedestrian facility design training and assistance to municipal and county engineers and planners.

T4 f. PennDOT and local governments should ensure that pedestrian details and amenities increase access and safety of pedestrian facilities. For example, poles and benches should be installed in locations that do not impede or interfere with pedestrian flow. Also, pedestrian level lighting should be added along sidewalks and paths.

T4 g. Local governments should adopt comprehensive plans that outline interconnected systems for pedestrian movements in urban areas and pedestrian activity areas in rural areas.

T4 h. Local governments should prepare sidewalk inventories which provide information about existing sidewalks, locations without sidewalks, and other factors in order to determine how pedestrian safety and convenience can be improved.

Objective

T5. In order to ensure that bicycles and pedestrians are accommodated on streets and roadways, design and performance standards should be adopted as part of PennDOT's statewide intermodal transportation plan.

Strategies

T5 a. PennDOT should examine available technology and practices in terms of safety, performance and cost for various bicycle and pedestrian situations. PennDOT should use this information to develop and adopt bicycle and pedestrian guidelines and standards.

T5 b. Once these standards are developed and adopted, PennDOT should sponsor regional training seminars and conferences for engineers, planners, developers, local government officials and streets department personnel to discuss design of streets and traffic controls that will improve the travel environment for bicyclists and pedestrians.

T5 c. PennDOT should study locations that currently accommodate significant volumes of pedestrians and bicyclists in order to identify various challenges in providing street and traffic controls. In addition, those areas that are underutilized should also be examined to identify necessary street or traffic controls.

Objective

T6. The mobility needs of pedestrians and bicyclists should be given consideration in deciding where and how to place traffic control devices, including signals, signs and crosswalks.

Strategies

T6 a. Municipalities should develop and post signs that identify potential bicycle routes or pedestrian crossings and warn bicyclists and pedestrians of hazardous conditions, such as around construction sites.

T6 b. PennDOT, the counties and municipalities should use special pavement markings and signage to alert motorists to the presence of bicyclists and pedestrians.

T6 c. Efforts should be made to maximize pedestrian mobility safety and minimize pedestrian delay at street crossings, including the timing of "walk" phases of traffic signals, the provision of control devices, and the provision of pedestrian islands and medians in wide, heavily travelled roadways.

SAFETY AND SECURITY OBJECTIVES

Objective

S1. Throughout the region, major hazards and barriers on the existing bicycle and pedestrian network should be identified and strategies developed for removing these barriers.

Strategies

S1 a. PennDOT and local Police departments should compile more detailed computer files concerning crash types of car/bike and car/pedestrian accidents and use the information to develop solutions to reduce the frequency of pedestrian and bicycle crashes.

S1 b. Bicycle clubs and coalitions should request that their members keep an inventory of bicycle and pedestrian barriers in the community and cooperate to share this information with PennDOT, Police departments and other appropriate agencies.

S1 c. PennDOT, counties and municipalities should sweep road debris from shoulders and bicycle lanes on a regular basis.

S1 d. PennDOT, counties and municipalities should include snow removal as regular roadway maintenance for all bike lanes and shoulders on all routes designated as bicycle routes.

S1 e. PennDOT, county and local governments should design roadway systems to curb excessive speeds in residential areas.

S1 f. Local governments should enact regulations to consolidate driveway entrances in commercial areas where pedestrian safety is compromised.

S1 g. Local governments should provide sidewalks/pathways along street frontages and refrain from constructing sidewalks/pathways in secluded areas.

Objective

S2. Communities should prepare an inventory of bicycle theft and bicycle and pedestrian assault areas within the community in order to identify areas where additional security is needed.

Strategies

S2 a. Police departments should keep track of crimes against bicyclists and pedestrians and use this information to upgrade security in these areas.

S2 b. Municipalities should introduce bicycle police patrols to serve communities.

Objective

S3. Safe cycling should be promoted in the region.

Strategies

S3 a. PennDOT should use a portion of its federal safety dollar allocation to promote helmet wearing and night time illumination through public outreach efforts.

S3 b. Professional organizations, such as doctors, educators, engineers, as well as the general public, should encourage the use of bicycle helmets.

S3 c. Bicycle clubs and coalitions should promote bicycle safety and riding in strict compliance with all applicable rules of the road.

ENFORCEMENT OBJECTIVES

Objective

E1. Bicycle and pedestrian laws should adequately reflect the needs of bicyclists and pedestrians and be enforced to ensure compliance and safety.

Strategies

E1 a. Municipalities and the Commonwealth should inventory existing laws that affect bicyclists and pedestrians and repeal those that unnecessarily restrict bicycle and pedestrian traffic and enact ones that encourage and protect bicycle and pedestrian activity.

E1 b. Police should issue traffic tickets, or warnings and citations as appropriate, to bicyclists who engage in hazardous cycling activity such as riding against traffic, disobeying stop signs and red lights or riding on the sidewalk.

E1 c. The PA Legislature or Congress should review its policy on the use of interstate highways or other limited access roads for bicycle use so that parts of these roadways that can accomodate safe bicycle access can be utilized for bicycle use.

E1 d. Fines should be enforced for those who violate pedestrian right-of-way.

E1 e. PennDOT should clarify and promote the regulations and protocol governing such situations as: vehicles turning across a crosswalk on a green light when a pedestrian is also crossing; or who has the right-of-way when a car is at a stop sign and a pedestrian is waiting to cross.

EDUCATION OBJECTIVES

Objective

D1. The general population should be encouraged to replace automobile trips with bicycle or pedestrian trips.

Strategies

D1 a. Schools should implement bicycle and walking education and safety programs. While these programs should focus on safe riding and the responsibilities of the road, they should also promote the use of the bicycle as an alternative mode of transportation.

D1 b. PADEP, DVRPC, Transportation Management Associations (TMA's) and local advocacy groups should promote public education campaigns to publicize bicycling and walking as commuter options.

Objective

D2. The general public should be educated about the rights and behavior of bicyclists and pedestrians.

Strategies

D2 a. The Department of Motor Vehicles (DMV) should include instruction on the rights of bicyclists and pedestrians in its driver education programs, and provide educational material on safe riding for bicyclists.

D2 b. PennDOT should include information about bicycle and pedestrian rights and responsibilities in its newsletters and other media tools such as billboards, television and radio.

D2 c. PennDOT, State Police, and the DMV should develop public relations posters that identify the rights of bicyclists and pedestrians. These posters could be hung in

state police barracks, DMV waiting rooms, schools, post offices, and municipal buildings.

Objective

D3. Employers should encourage their employees to walk or bicycle to work.

Strategies

D3 a. If Employee Trip Reduction Coordinators are in place, they should educate employers on the ways in which employer sponsored bicycle programs can assist an employer in meeting ETRP requirements.

D3 b. DVRPC and the TMA's should prepare fact sheets on how other employers have designed and implemented bicycle to work programs. This information should be available to Ride Share coordinators and others working to promote alternative modes of transportation.

D3 c. Large employers at a single site should provide amenities such as showers, dressing areas and bike parking to encourage employees to bicycle to work.

FUNDING OBJECTIVES

Objective

F1. The environmental and social implications of transportation investments should also be considered and transportation projects consistent with those objectives should be pursued.

Strategy

F1 a. DVRPC should utilize the TIP, CMAQ and other programming processes to consider all benefits of bicycling or walking in project review.

Objective

F2. Funding for bicycle and pedestrian projects should be increased to meet the goals and general project improvements of this plan.

Strategies

F2 a. The regional TIP should establish a line item in its budget for bicycle and pedestrian investments that reflect the goals and improvements of this plan.

F2. b. State highway projects should include adequate funding to include bicycle and pedestrian facility improvements as an integral part of the project, where appropriate, as part of the regional network.

Objective

F3. Innovative funding techniques should be investigated to expand funding opportunities for projects and programs.

Strategies

F3 a. The state and cities should explore roadway or congestion pricing measures, of which a portion of the revenues from these measures are applied to improving biking and walking facilities.

F3 b. A portion of local and state road funds should be reserved for bicycle and pedestrian projects.

EVALUATION OBJECTIVES

Objective

V1. Transportation studies or surveys that provide an increased understanding of the use or barriers to use of bicycles or walking, as well as monitoring of progress towards this plan, should be undertaken.

Strategy

V1 a. DVRPC should initiate a project to identify latent bicycle use among residents of the region and to determine the level of need for various engineering, design and program changes.

V1 b. DVRPC should conduct a study to determine why bicycling is not used extensively in southeastern Pennsylvania and identify the barriers to bicycle use and the opportunities to increase such use.

V1 c. DVRPC should evaluate the progress toward reaching the goals and objectives of this plan, as well as implementation of specific projects, through regular monitoring of activities and periodic updating of the Plan.

V1 d. PennDOT and DVRPC should continue to coordinate regular meetings of the counties, the bicycle coalitions and the TMA's to consider ongoing issues of concern regarding bicycle and pedestrian issues and to assist in the long-term implementation and oversight of the Plan.

CHAPTER IX

THE SOUTHEASTERN PENNSYLVANIA BICYCLE NETWORK

The Southeastern Pennsylvania Bicycle Network presents a future that will include safe and convenient bicycle access to those who travel in the region. It also represents options - options for travelers to forego the automobile and choose to improve their health, save money, and clean up the environment by travelling by bicycle. The long linear routes identified as part of the network will provide excellent transportation opportunities (Figure XII). When the entire network is constructed, the region will contain almost 2,100 miles of bicycle facilities. A breakdown of proposed network miles is presented in Table XV. Appendix A describes each route in detail.

TABLE XV
PROPOSED REGIONAL BICYCLE NETWORK CHARACTERIZATION
(in miles)

	Bucks	Chester	Delaware	Montgomery	Philadelphia	Total
Roadways	275	149	163	483	326	1,396
Corridors	71	125	51	51	36	334
Off-road	96	122	32	101	8	359
TOTAL:	442	396	246	635	370	2,089

The network represents a comprehensive and coordinated bicycle system that builds upon existing facilities while taking into consideration proposed projects, potential bicycle travel routes, and the location of key destinations within communities. Much of the existing system is recreational, and the network also provides connections to these facilities so that recreational bicyclists are not required to carry their bicycles in their automobiles in order to access recreational bicycle facilities.

An important consideration in developing the network was the location of key sites within a community. The Plan inventoried the location of schools and universities, large employers, transit facilities and shopping centers, although the list of locations to which one could bicycle is unlimited. The resulting network runs within two miles of most major employers, provides access to the majority of colleges and universities in the region, and is within three quarters of a mile of all transit stations.

Because Philadelphia is primarily on an east-west, north-south grid pattern, the proposed routes generally run east-west and north-south. Proposed Bucks, Delaware and Montgomery Counties and Northwest Philadelphia routes run northeast-southwest and northwest-southeast. In all of these areas - due to road layout - proposed routes are intersected within reasonable distances. Chester County does not lend itself to any grid pattern. Due to low densities in the western part of the county, distances between route intersections are greater.

Areas with high population density and a smaller total area, such as Delaware County and Philadelphia, have less proposed total mileage than areas with lower population densities, such as Bucks County and Chester County. However, concentration of proposed bicycle facilities is densest around Philadelphia and thins off along the outer reaches of southeastern Pennsylvania. The distance between nodes on the bicycle network (points where routes intersect) increases in lower density counties and decreases in more densely populated counties (Table XVI).

TABLE XVI
INCREASE IN DISTANCE BETWEEN PROPOSED ROUTE CONNECTIONS

County	Miles between nodes
Bucks	8.4
Chester	12.4
Delaware	5.4
Montgomery	6.3
Philadelphia	2 8

DESIGNATING ROUTES

Sixty-seven percent of the proposed network is located on state, county or local roadways. Bicycle facilities that are constructed within state or local rights-of-way may consist of bicycle routes designed on road, an exclusive bicycle lane provided on a street or highway, a paved shoulder signed and marked for bicycle use, or a separate path located within the street or highway right-of-way. Seventeen percent of the network is located off-road. These off-road facilities, shown in green on the map, would typically traverse a utility corridor or be located along the right-of-way of an abandoned rail line. Off-road facilities can provide important connections between the on-road network. The remainder of the network is represented in yellow on the map as corridors, where the exact route alignment is still to be defined. Corridors represent those travel movements

or network connections where bicycle access would be desirable, but where a specific route has not yet been identified. In some cases, a corridor may be shown along a major highway, such as the Pennsylvania Turnpike, where an on-road facility is clearly not possible but a parallel state or county route or even an off-road route may be possible. These future corridors represent approximately 16% of the total network.

It is important to note that the proposed routes shown on the network are not yet necessarily safe and accessible to bicyclists. While some of the routes may be marginally acceptable today, most will require a capital investment improvement in order to be bikable.

DESIGNATING ACCESS

To maximize opportunities for bicycling within the region, barriers to continuous bicycle travel should be eliminated. In particular, bridges should be made bicycle accessible in order to accommodate continuous bicycle movement. Within the bicycle network, several bridges have been identified as providing key connections to bicyclists. Because of the large number of variables involved in retrofitting bicycle facilities onto existing bridges, the design standards that are applied should be considered on a case by case basis.

PRIMARY ROUTES

Within the network, several primary routes were selected that represent those routes that should be given special consideration. These routes have been selected either because they make a necessary connection that defines the rest of the network or because portions of the bicycle facility have already been built, and the continuation of the project has either received or is expected to receive funding. The primary routes represent the core framework of the network.

Primary routes and corridors include sections of the following:

Bucks County: Rt. 513/Trenton Rd./Tyburn Rd./Old Lincoln Hwy./Trenton Av., Rt. 202, Old York Rd., Rt. 132, Rt. 313, County Line Rd./Lower State Rd., State Rd./Station/Cornwells Av., and Philmont/Bustleton Av.

Chester County: The Schuylkill River Trail, Paoli Pk./Devon Rd., Evergreen La./Sugartown Rd., the Chester Valley Trail.

Delaware County: Rt. 291, Rt. 3, Rt. 320 and the P&W Trail.

Montgomery County: The Perkiomen Trail, Cross County Trail, Schuylkill River Trail, Wissahickon Trail, Newtown Greenway Trail, Rt. 73, Ridge Pk, Rt. 29, Rt. 113, Rt. 63, Sumneytown Pk, Rt. 363, Rt. 611, Forty Foot Rd., Rt. 309, Rt. 202/Upper State Rd., Stenton Av., Butler Pk., Matson Ford Rd., Gulph Rd./Montgomery Av., Rt. 263, Rt. 332 and County Line Rd.

Philadelphia County: Rt. 611, Cobbs Creek Bikeway, Stenton Av./Godfrey Av., Delaware River Corridor, Bustleton Av./Bridge St., Oregon Av., Bells Mill Rd./Ridge Av./Shawmont Av., City Line Av., Chestnut/Walnut St. and 38th St./Woodland Av.

The Schuylkill River Trail and Paoli Pike are programmed on the TIP, as is a portion of Route 202 which is programmed on the TIP as Pedestrian/Bicycle Access through Historic Buckingham Village. Both the Chester Valley Trail and the Cobbs Creek Bikeway are primary projects that have received CMAQ funding.

A map of the primary routes and corridors of the Proposed Bicycle Network is found on Figure XIII.

LOCAL CONNECTIONS

The Southeastern Pennsylvania Proposed Bicycle Network was designed to provide the foundation for bicycle travel throughout the region. Local officials are encouraged to consider this network when designing local bicycle facilities to ensure that local facilities are connected to the regional network and do not operate as stand alone facilities.

Figure XIII
SOUTHEASTERN PENNSYLVANIA
Primary Routes

- Major Highway
- State Maintained Road
- County Maintained Road
- Park
- Primary Route
- Existing Linear Bicycle Facility Greater Than 2 Miles

DIRECTION 2020
A Region on the Rise

BUCKS
MONTGOMERY
CHESTER
DELAWARE
PHILADELPHIA

0 2 4 6
MILES

DELAWARE VALLEY
REGIONAL PLANNING COMMISSION

Figure XII
SOUTHEASTERN PENNSYLVANIA
Proposed Bicycle Network

- Major Highway
- State Maintained Road
- County Maintained Road
- Park
- Proposed Bicycle Facility Located Within the Right-of-Way of a State or County Route
- Proposed Off-Road Bicycle Facility
- Proposed Bicycle Corridor to be Defined
- Primary Route
- Abandoned Rail Line
- Existing Linear Bicycle Facility Greater Than 2 Miles

DIRECTION 2020

A Region on the Rise

BUCKS
MONTGOMERY
CHESTER
DELAWARE
PHILADELPHIA

DELAWARE RIVER

0 2 4 6
MILES

DELAWARE VALLEY
REGIONAL PLANNING COMMISSION

CHAPTER X

IMPLEMENTING THE NETWORK

The proposed bicycle network for southeastern Pennsylvania relies primarily on the region's roadways to form the foundation of the system. To some degree, most of the state, county and local routes listed on the network will need to be improved to help ensure safe access and use by bicyclists. Once roadways are improved to accommodate bicyclists, continued maintenance is necessary to ensure safe bicycling conditions. As noted in a previous chapter, the current bicycle compatibility of the roadways listed on the network was not assessed. Most roadways will require at least minor modifications if they are to accommodate bicycle traffic. The network is intended to put agencies, counties and municipalities on notice that bicycle improvements should be incorporated into the planning, design, construction, and improvement of the roadways that appear on the network map.

The facilities listed on the network have been grouped into the three general classifications of roadways, off-road and corridors. However, there are five basic categories into which these facilities can be classified:

1. Bike route: a road signed for bicycling but with the bicycle sharing the road surface with other vehicles.

2. Unprotected bike lane: a lane or street pavement separated from motor vehicle traffic only by a stripe marking the lane.

3. Protected bike lane: a lane on street pavement separated from motor vehicle traffic by a physical barrier.

4. Bike path: a path within a motorized transportation right-of-way but separated from motor vehicle movement by an intervening strip of land.

5. Off-road path: a bicycle facility completely separated from a street or highway right-of-way.

The first four facility types are possible options for the facilities located along state, county, and local routes - or those facilities identified in yellow as corridors on the network. The costs of these facilities vary considerably with bike routes and unprotected lanes costing less than some of the other alternatives.

COSTS

At this stage of the network development, it was not feasible to recommend the type of bicycle facility that should be constructed along each roadway. In order to accomplish this, each roadway would have to be evaluated individually for its bicycle compatibility. With more than 2,100 miles of proposed facilities, the task of identifying specific roadway deficiencies and recommending facility type along individual roadways was beyond the scope of work for this plan. The agencies and local governments responsible for roadway improvements are in a better position to perform this type of evaluation. PennDOT and county and local governments should evaluate current conditions along roadways within their jurisdiction, especially in areas where bicycle facilities have been proposed.

While the cost to construct all elements of the network can therefore not be precisely defined at this point, some general cost are outlined in Tables XVII and XVIII as guidance for estimating the cost of developing segments of the bicycle network. There are a wide range of facility improvements which can enhance bicycle transportation. Improvements can be simple and involve minimal design considerations or they can involve detailed designs. In any event, standards of the American Association of State Highway and Transportation Officials (AASHTO) for roadway improvements should be consulted and incorporated into the design of bicycle facilities.

The costs have been separated into costs for on-road and off-road facilities. The on-road costs of construction may vary widely. In some cases, roadways may already have adequate shoulders that would simply be striped or paved to accommodate bicyclists. This type of cost would be assumed within a general maintenance program. In other cases, additional right-of-way may need to be acquired and the roadway widened in order to adequately serve bicyclists.

Many of the off-road facilities identified on the network are located along abandoned or inactive rail rights-of-way. Two costs are associated with rail-trail projects and include the costs of construction and acquisition. Acquisition costs can vary greatly. According to a Rails-to-Trails report[15], for Pennsylvania and New Jersey, acquisition costs can range from $4,194 to $270,483 per mile. Factors affecting the acquisition price include: adjacent land uses, zoning restrictions, and area population. Acquisition costs are further complicated by additional purchase factors such as title searches, appraisals, Phase I environmental estimates, and land surveys. Each additional factor can add between $1,000 and $3,500 to the acquisition cost.

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[15] Rails-to-Trails Conservancy, "Acquisition Costs for Selected Rail-Trails," Washington, D.C.: RTC, 1989.

TABLE XVII
CONSTRUCTION COSTS
PER MILE OF PROGRAM ELEMENT

Item	Description	Cost [1]
Right-of-way [2]	20 ft wide	$41,290
Base and pavement	For each foot of width	$8,818
Widening of roadway	Widening of 3 ft	$162,096
Widening of roadway with curb sections involved	Widening of 1 ft Widening of 2 ft	$147,418 $200,059
Widening of bridge [3]	Widening of 3 ft	$67,000
Striping		$1,742
Barriers		$9,451
Lighting		$159,192
Landscaping	20 ft wide	$109,085

Note: [1] *All costs converted from original to 1995 dollars using Consumer Price Index (CPI)*
[2] *Right-of-Way costs will vary widely.*
[3] *Per 100 linear feet.*

Source: *1 Robinson, 1981.*
2 Datz, John. Cost Estimates for Variable Widening for Bicycles. New Jersey Department of Transportation, Bureau of Design Standards and Economic Design Analysis, 1984.
3 Lindey, Jeffrey A. Methodology for Evaluating the Feasibility of Grade-Separated Pedestrian Crossings. Transportation Research Record 1059, 1986.
4 Podolske, Richard. Investing in Urban Bicycle Facilities. Transportation Engineering Journal, August, 1974.

TABLE XVIII
CONSTRUCTION COSTS
PER INDIVIDUAL PROGRAM ELEMENT

Item	Description	Unit Cost [1]
Grade-separated intersection	Concrete conduit underpass, 10 ft diameter	$170,846
At-grade intersection modification	Loop detectors for bicycles	$68,338
Pedestrian bridge	180 ft long, 6 ft wide ($3,375/ft)	$678,471
Bicycle Grates Stream Flow Grates		$346 $206
Bicycle Locker	Holds two bicycles, theft proof	$614
Signing		$67/sign
Pedestrian Signal		$2,624

Note: [1] *All costs converted from original to 1995 dollars using CPI.*

Source. *1 Robinson, 1981.*
2 Lindey, 1986.
3 Podolske, 1974.

In addition, converting the corridor to a functioning bicycle path could cost between $70,000 and $100,000 per mile to construct a bicycle path that conforms with AASHTO standards. Included in this cost would be an asphalt paved bicycle path (e.g. 2-3 inch paved surface with a gravel sub-base) at least 10 feet wide, which would accommodate two lanes of travel. The following table provides general construction costs of an off-road trail:

TABLE XIX
OFF-ROAD BICYCLE FACILITIES COST
PER MILE OF PROGRAM ELEMENT

Activity	Approximate Cost (per mile)
Design and Inspection	$14,415
Construction Contracts	$64,788
Landscaping	$ 5,399

All costs converted to 1995 dollars
Source: Arrowhead Trail Development Costs, Peters Township, Pennsylvania

Based on the range of per mile costs for different facility types, a general estimate can therefore be made regarding the long-term cost of the Plan. Considering the average for engineering, acquisition and construction cost for off-road facilities in the region, the typical per mile cost is approximately $93,333. Thus, for the 359 miles of off-road trails identified in the Plan, costs through the year 2020 are approximately $33,506,547 in constant 1995 dollars.

Existing on-road facility costs are somewhat more difficult to determine because, as stated, a given facility may need improvements ranging from simple striping and signage to paving, widening or acquisition. Currently, approximately 300 miles of the roadways identified within the Plan have shoulder widths greater than or equal to four feet on one or both sides of the road. Making these facilities bicycle compatible would include negligible costs such as signing or new striping. For the remaining 1,096 miles of roadway identified in the Plan, some capital improvements will be necessary. The average cost to widen, pave and stripe a four foot shoulder/bike lane in this region is $198,138 per mile. Thus, the total cost for roadway improvements identified in the Plan is $217,159,248 in 1995 dollars. Over time, however, many of these roadways will be repaired, rehabilitated or renovated by PennDOT or the counties. Through the regular maintenance program, many of these roadways may be widened or shoulders paved and provided as part of the regular project design. The costs identified here would actually be carried by the regular transportation maintenance budget.

The total costs to implement all improvements as identified in the Plan could therefore be up to $250,665,795 although the actual costs should actually be much less than this.

While this may appear significant, over the twenty-five year time frame is just over $10 million per year and about one percent of the total capital cost of the 2020 Transportation Plan. This is consistent both with current spending in the regional TIP and with the long-term policy goals of that plan, which call for spending between one to two percent of funds on bicycle facilities.

IMPLEMENTATION

Because the majority of the facilities that have been identified are located along state routes, PennDOT will assume primary responsibility for insuring that roadways can accommodate bicyclists. Such programs as the Surface Improvement Program, Statewide Shoulder Paving Initiative, and the Betterment Program could be used as vehicles for improving bicycle and pedestrian conditions. Some of these programs represent more short term solutions than others.

To ensure that bicycle and pedestrian projects are funded and constructed, it is important to have them included on the region's Transportation Improvement Program (TIP). In selecting projects for the TIP, selection criteria should give consideration to bicycle and pedestrian projects that contribute to the development of the bicycle network. In some cases, projects may include the construction of on-road or off-road bicycle facilities that have been identified on the **Southeastern Pennsylvania Proposed Bicycle Network**. In other cases, a municipality or county may propose a project that will connect to and enhance the network as outlined.

In addition, the counties can encourage the implementation of the bicycle network by adopting this plan, which is an element of DVRPC's **Land Use and Transportation Plan for the Year 2020**. On the county level, a bicycle network of primary route designations should be developed to complement the Proposed Bicycle Network. Municipalities are also encouraged to consider the network when developing bicycle plans for their communities. Because the network was created with trip generators in mind, local connections will only enhance the travel opportunities available to residents. Other affected parties, such as the State Park system, also have an important role to play in developing facilities, especially the network of off-road trails.

As required under ISTEA, this plan will be subject to review in intervals of three years. One important aspect of the review process will be determining whether comprehensive, connecting, and continuous facilities are being developed according to this plan. It is important that local officials, planners and engineers be cognizant of how their decisions will impact on the region and the future of intermodal transportation.

APPENDIX A

Southeastern Pennsylvania
Bicycle and Pedestrian Mobility Plan
Characterization of Network Routes

BUCKS COUNTY

1. Roadways

Rt. 263 (Rt. 202 to Montgomery County)

This route is a primary route from Rt. 313 to Montgomery County. It connects with a programmed TIP project in the Buckingham Township historic area.

Rt. 202 (Doylestown to Delaware River)

This route connects the Rt. 202 corridor to New Hope. It links up with the Delaware Canal Towpath. This route includes a programmed TIP project in Buckingham Twp's historic area.

Rt. 412 (Lehigh County to Rt. 611)

This route is adjacent to Nockamixon State Park. Bucks County's proposed Durham Township Link Parks and Stover Myers Mill Link Parks trail intersects this route.

Allentown Road/Trumbauersville Rd. (Montgomery County to Quakertown Borough)

Rt. 212/611 (Quakertown Borough to Delaware River Bridge)

This route connects with the proposed Durham Township Link Parks and extends through Riegelsville Borough to the Delaware River Bridge.

Rt. 563 (Rt. 412 to Montgomery County)

This route runs through Nockamixon State Park where it connects with an existing park trail. The State Game Lands Link Parks trail proposed by Bucks County intersects this route. It also connects routes 412 and 313.

Rt. 313/663 (Montgomery County to Rt. 263 (Old York Road))

This route runs through Quakertown and Dublin Boroughs, Nockamixon State Park and is adjacent to Peace Valley and Font Hill County Parks and Doylestown Borough. It also connects with the trails within Peace Valley Park. The Peace Valley Link Parks trail proposed by Bucks County terminates in Dublin Borough at Rt. 313. Three major employers are located along this route. A portion from Rt. 202 to Rt. 263 is a primary route.

Knights Road (Philadelphia County to Rt. 132)

Cold Spring - Creamery/Carversville Roads (Rt. 313 to Delaware River)

This route begins at Font Hill County Park and terminates at the Delaware Canal Towpath. It connects with the Delaware Canal Rehabilitation in Solebury Township, a programmed TIP project.

Rt. 309/Old Bethlehem Pike (Lehigh County to Montgomery County)

This route runs through Quakertown and Perkasie Boroughs. It connects with the existing Lenape Park Bike Path in Perkasie. Four major employers are located along this route.

Rt. 113 (Montgomery County to Rt. 611)

This route runs through Silverdale Borough and connects with Bucks County's proposed Stover Myers Mill Link Parks trail.

Almshouse Road (Rt. 611 to Jacksonville Road (Rt. 332))

This route runs adjacent to Dark Hollow Park. The Neshaminy Creek Link Parks trail proposed by Bucks County intersects the route.

Rt. 132 (State Road to Lower State Road)

This is a primary route. Eight major employers are located along this route.

Rt. 332 (Montgomery County to Delaware River)

This route runs adjacent to Tyler State Park, U.S. Naval Air Warfare Center and SEPTA's Warminster Station. It connects with the Delaware Canal Towpath and Tyler State Park Bike Trails. Four major employers are located along this route. The Neshaminy Creek Link Parks trail proposed by Bucks County intersects the route. It connects with the programmed Newtown Trails TIP project.

Rt. 232 (Montgomery County to Rt. 332)

This route runs adjacent to Tamenend Community Park and SEPTA's Southampton Station (presently inactive on R8 Newtown line).

Bustleton Pike (Rt. 232 to 532)

This route runs adjacent to SEPTA's Churchville Station (presently inactive on R8 Newtown line).

Rt. 532 (Philadelphia County to Delaware River)

The Neshaminy Creek Link Parks and Mill Creek Link Parks trail proposed by Bucks County intersects the route.

Rt. 152 (Perkasie Borough to Montgomery County)

This route intersects the Neshaminy Creek Link Parks trail proposed by Bucks County and the existing park system in Perkasie Borough.

Stoney Hill/Heacock/Oxford Valley Roads/Levittown Parkway (Rt. 332 to Rt. 13)

This route provides the backbone of a bikeway network proposed by Middletown Township The route is adjacent to Oxford Valley Mall and runs through Oxford Valley Park. One major employer is located near this route. The Middletown/ Lower Makefield Link Parks trail intersects the route.

Pineville/Stoney Hill Roads (Rt. 413 to Rt. 202)
This route terminates in New Hope Borough.

Swamp Road/Twining Bridge Road (Rt. 413 to Rt. 413 Bypass)
This route is adjacent to Tyler State Park and Bucks County Community College and terminates near Newtown Grant, a large residential development.

U.S. 1 (Philadelphia County to Bristol Road)
This route is adjacent to Eastern State Hospital, PA State Police Barracks and a memorial park. The route is also near the Neshaminy Mall and connects to the proposed Neshaminy Links Park.

Lincoln Hwy W (Neshaminy Links Park to Rt. 413)
This route passes through Pendel Borough and is near the Philadelphia College of Bible.

County Line Road (Allentown Rd. to Rt. 532)
This route is adjacent to Hatboro Borough, three industrial parks, a memorial park and many shopping centers. A portion of this is a primary route.

Lower State Road (County Line Road to Rt. 202)
This route is adjacent to Delaware Valley College. A portion of this is a primary route.

Upper State Road (County Line Road to Rt 202)
This route connects the proposed Neshaminy Creek Link Parks with Montgomery County.

Headquarters Rd./Rt. 32/Frenchtown Bridge (Rt. 611 to New Jersey)
This route would run along Headquarters Rd and connect a proposed off-road route and the Delaware Canal State Park with Frenchtown, NJ.

New Rogers Road/Rt. 413/Burlington-Bristol Bridge Approach
This route would connect Bristol Borough with Burlington, NJ.

Rt. 513 (Hulmeville Rd.)/Trenton Road/Tyburn Rd./Old Lincoln Hwy/Trenton Av./Calhoun St. Bridge (Rt. 13 to New Jersey)
This is a primary route that connects to the existing Lower Makefield bicycle network. Two major employers are located along this route.

Station Av./Cornwells Av. (State Rd. to Rt. 513 (Hulmeville Rd.))
These two small primary routes connect Rt. 513 and State Road, which both provide primary routes outside the county.

Bensalem Blvd/New Falls Road/Tyburn Road (Rt. 13 to Trenton Road)

This route runs adjacent to Fallsington, Queen Anne and Frosty Hollow County Parks. The Neshaminy Creek Link Parks trail proposed by Bucks County intersects the route. This route also crosses the existing Lower Makefield Township bicycle network and connects Morrisville Borough with Trenton, NJ. Two major employers are located along this route.

Lincoln Hwy./Bridge St. and the Trenton Makes Bridge (Trenton Av. to New Jersey)

This route would connect Morrisville Borough with Trenton, NJ.

State Road (Rt. 413 to Philadelphia County)

This route runs adjacent to Neshaminy State Park and near the Delaware River Access area at Echo Beach, as well as SEPTA's Andalusia and Cornwells Heights Stations. The route terminates at SEPTA's Torresdale Station (Philadelphia). This route is intersected by the Neshaminy Creek Link Parks trail proposed by Bucks County. Four major employers are located along the route. A portion of this route from Philadelphia to Station Av. is a primary route.

Philmont/Bustleton Av. (Philadelphia to Street Road)

This is a primary route connection into Philadelphia.

2. Off-Road

Neshaminy Creek Link Parks (along Neshaminy Creek)

This route passes through Neshaminy, Tyler State, Core Creek, Dark Hollow and Peace Valley Parks. It connects with existing trails in Tyler, Core Creek and Peace Valley Parks. One major employer is located near this route. The route connects with a programmed TIP project on Village Road in Middletown Township

(Washington Crossing State Park) Link Parks

This route follows Pidcock and Jericho Creeks to connect Washington Crossing State Park with the Delaware River.

(Stover Myers Mill) Link Parks

This route links Ralph Stover Park to existing trails in Nockamixon State Park and Delaware Canal State Park.

(State Game Lands) Link Parks

These routes links Nockamixon State Park with two State Game lands.

(Mill Creek) Link Parks

This route links Churchville Nature Center with Playwicki Park.

(Durham) Link Parks

This route follows Cooks Creek from Rt. 412 to Riegelsville Borough.

(Middletown/Lower Makefield) Link Parks

This route links Core Creek Park with Lower Makefield's Township Complex and the existing network in Lower Makefield Township It also provides a connection to an existing bikeway in Core Creek Park.

(Peace Valley) Link Parks

3. Corridors

Rt. 9/Northeast Extension -Pennsylvania Turnpike(Montgomery County to Lehigh County)

This is a corridor parallelling the Northeast Extension of the PA Turnpike.

Rt. 413 (Rt. 611 to Bristol Borough)

This corridor is adjacent to Tyler State Park, Frosty Hollow County Park, Bucks County Community College and SEPTA's Langhorne Station. It runs through Newtown Borough along State St. and past SEPTA's Newtown and George School Stations (presently inactive on R8 Newtown line). It terminates near the Bristol Borough Spurline Park. Bucks County's proposed Neshaminy Creek Link Parks trail intersects this corridor in Wrightstown Township and Middletown Township Three major employers are located along this route. This route connects with the Newtown Trails 1, a programmed TIP project.

Woodhaven Road (Philadelphia County to Rt. 13)

Rt. 611 (Montgomery County to Delaware River)

This corridor is adjacent to Dark Hollow Park and SEPTA's Doylestown Station, and runs through Doylestown on Main St. The route terminates at the Delaware Canal Towpath. Bucks County's proposed Neshaminy Creek Link Parks and Stover Myers Mill Link Parks trail intersects Rt. 611. There are two major employers along this route.

Rt. 202 (Montgomery County to Delaware River)

This is a primary corridor from the Montgomery County Line to Doylestown. It is near SEPTA's Chalfont Station and runs through New Britain and Chalfont Boroughs. The Neshaminy Creek Link Parks trail proposed by Bucks County intersects the corridor in Chalfont Borough. Three major employers are located along this corridor.

CHESTER COUNTY

1. Roadways

Pughtown Road (Rt. 23 to Rt. 113)
This route provides a connection with Warwick County Park.

Quarry Road/Valley Creek Road (Rt. 322 to Boot Road)
This route will connect several neighborhoods into commercial and employment centers.

Pawlings Road (Rt. 23 to Montgomery County)

Swedesford Road/Malin Road (Rt. 29 to Cedar Hollow Road)
This route connects two segments of the Chester Valley Rail Line. Five major employers are located along this route. This project connects with the Chester Valley Trail, a programmed TIP project.

Rt. 842 (Rt. 100 to Rt. 82)
This route connects West Chester to the Brandywine Trail.

Modena/Creek/Brandywine Creek Road/Rt. 100 (Bridge Road to Delaware State Line)
This route has high-volume recreational bicycle use. The southern end provides a linkage into Wilmington, Delaware.

Rt. 352 (Paoli Pike to Delaware County)
This route connects into Delaware County.

Paoli Pike (Rt. 100 to Rt. 252)
Running through West Chester Borough, this primary route is adjacent to East Goshen Township Park, Malvern Borough and near SEPTA's Paoli Station. Five major employers are located along this route. This project connects with the Paoli Pike Bikeway, a programmed TIP project. A portion of this project is programmed on the TIP.

Devon State/Township Line/Darby/Sugartown Roads (Paoli Pike/Rt. 252 to Rt. 30)
This primary route connects with the Paoli Pike Bikeway, a programmed TIP project. This route parallels Rt. 30.

Brintons Bridge Road (Rt. 100 to Delaware County)

Saint Peters Road (Warwick County Park to Horseshoe Trail)
This route provides linkages into Warwick Park, St. Peter's Village and a connection to an abandoned rail line.

Eagleview Blvd. (Rt. 113 to Rt. 100)

Font Road/St. Andrews Road (Rt. 100 to Rt. 401)

Dowlin Forge Road/Milford/Sheree Road (Struble Trail to Rt. 113)

Business Rt. 30 (Lincoln Hwy)/Rt. 372/Pennsylvania Av. (Downingtown to Lancaster County)

This route connects Downingtown, Coatesville, Parkesburg and Atglen Boroughs. It also passes near the Chester County Airport. Three major employers are located along this route. Portions of this route are corridors. This route connects with a programmed TIP project, the Chester Valley Trail.

Tigue Road (Rt. 100 to Rt. 202)

This route passes through West Chester University in West Chester Borough.

Rt. 52 (U.S. 1 to Delaware State Line)

Westtown/Creek Road (Gay St. to Delaware County)

Old Lancaster/Conestoga/Upper Gulph Roads (Rt. 30 to King of Prussia Rd.)

Thomas/Walker/Old Eagle School Roads (Valley Forge Park to U.S. 30)

N. Valley Road (Devon/Township Line Road to Chester Valley Trail)

This primary route connects the primary routes of Paoli Pike and the Chester Valley Trail.

King Road/Warren Av. (King Rd. to Paoli Pike)

This route is adjacent to Malvern Prep and Immaculata College. It connects with the SEPTA Malvern Station and runs through Malvern Borough. This project connects with the Paoli Pike Bikeway, a programmed TIP project.

Mowere Road/Anderson Av. (Rt. 23 to Rt. 29)

This project runs through Phoenixville Borough.

Rt. 796 (Baltimore Pike to Rt. 896)

Norwood Av./Embreeville/West Chester/Broad Run Roads (Rt. 30 to Northbrook Road)

Park Road (Marsh Creek Lake to Rt. 100)

This route connects Rt. 100 with Marsh Creek State Park.

2. Off-Road

Schuylkill River Trail (Portions)

Portions of this primary, off-road rail-trail along the Schuylkill River are in Chester County. Five major employers are located along this route in Chester and Montgomery Counties. This route connects with the Betzwood Bridge Trail, a programmed TIP project along the Schuylkill River Trail.

Chester Valley Trail (Montgomery County to Downingtown)

This primary route utilizes portions of the Chester Valley rail line. This is a programmed TIP project. Twelve major employers are located along this route.

Hibernia Trail (Elverson to Coatesville)

This route utilizes an abandoned rail line that runs north-south, and partially follows the Brandywine Creek. It runs through Hibernia County Park and Struble Lake Recreation Area.

West Chester Borough to Immaculata College (rail right-of-way)

Octoraro Rail Line (Delaware County to Rt. 272)

This active freight line passes through Kennett Square, Avondale, West Grove and Oxford Boroughs and passes adjacent to Lincoln University. If service is terminated, this right-of-way could potentially be used as on off-road trail.

Morrisville Rail Line (Ship Road to Skelp Level Road)

This route parallels the SEPTA R5 Downingtown line and is adjacent to three business parks.

Warner Rail Spur (Rt. 29 to Chester Valley Trail)

This route connects the Rt. 29 and Swedesford Road along a rail right-of-way.

West Chester Borough to Delaware County(rail right-of-way, off-road)

This route utilizes the unused SEPTA R3 right of way from West Chester Station to Delaware County.

Horseshoe Trail (Berks County to Saint Peters Road)

Supplee Road/Creek Road (Rt. 322 to U.S. 30)

This route links Downingtown with Marsh Creek State Park, Springton Manor Farm, Struble Lake Recreation Area, and Honey Brook Borough. It utilizes a portion of an abandoned rail line north of Downingtown and links up with the Struble Trail. A portion is off-road.

Valley Creek (U.S. 202 to Valley Forge Park)
This route extends through Valley Forge Park and includes an off-road connection with a programmed TIP project, the Chester Valley Trail.

3. Corridors

Rt. 41 (Baltimore Pike to Delaware State Line)
This corridor passes through Avondale Borough.

Baltimore Pike (Rt. 272 to Delaware County)
This corridor passes through Kennett Square, Avondale, West Grove, Oxford Boroughs and runs next to Lincoln University. Two major employers are located along this route.

Rt. 82 (Rt. 162 to Baltimore Pike)
This is a corridor that terminates in Kennett Square and is adjacent to a golf course and a middle school/high school complex.

Rt. 896 (Baltimore Pike to Maryland State Line)

Rt. 113 (Rt. 23 to Sheree Boulevard)
This corridor will eventually connect with other trails from Downingtown to Phoenixville Borough. It is adjacent to Pickering Creek Industrial Park and near Valley Forge Christian College. The proposed Horseshoe Trail intersects Rt. 113 in West Pikeland Township. The Struble Trail and Kardon Park Trail currently terminate in Downingtown near Rt. 113. This corridor, with extensions, will eventually tie into the Struble Trail.

Rt. 23 (Rt. 724 to Saint Peters Road)

Rt. 252 (Rt. 30 to Delaware County)

Rt. 322 (Corner Ketch Lyndell Road to Rt. 100)
This corridor connects Downingtown and West Chester Boroughs. It also connects to the Struble Trail and Kardon Park Trail in Downingtown.

Boot Road/352 (Rt. 322 to Rt. 352)
This corridor is adjacent to Trestle Bridge Business Center, Downingtown Industrial Park, Goshen Corporate Center and several retail centers.

Rt. 3 (Gay St. to Delaware County)
This is a corridor that runs through a portion of Ridley Creek State Park.

Rt 100 (Eagleview Blvd. to Font Rd.)

Rt. 202/322 (Gay St. to Delaware County)
This is a corridor from West Chester Bypass to U.S. 1, which runs on the state route or undesignated local routes, terminates in West Chester Borough and at Delaware County. Three major employers are located along this corridor.

Rt. 29/White Horse Road (Chester Valley Trail to Rt. 23)
Running through Phoenixville and Malvern, this route is adjacent to East Whiteland Township Park, Great Valley Corporate Center, and The Shops at Great Valley. White Horse Road is a corridor. The Horseshoe Trail intersects White Horse Road in Charlestown Township This route becomes a corridor north of the Chester Valley Rail Line.

Ship Road (Chester Valley Trail to Boot Road)
This corridor is adjacent to Whiteland Business Park.

DELAWARE COUNTY

1. Roadways

Dilworthtown/Brinton Lake/Glen Mills/Sweet Water/Valley/Sycamore Mills Roads (Rt. 352 to Chester County)
This route runs from Route 202/322 in Chester County to Ridley Creek State Park.

Creek/Tanguy/Gradyville/Media Line Rds. (Street Rd.(Rt. 926) to West Chester Pike)
This route is adjacent to Cheyney University and connects the university with Ridley Creek State Park, the trails within the park, and Springton Reservoir. Four major employers are located along this route.

Rt. 252 (Chester County to Rt. 320)
This route is adjacent to Media Borough, Rose Tree Park, Springton Reservoir and Delaware County Community College.

Rt. 3 (Chester County to Philadelphia County)
This primary route connects with Ridley Creek State Park and Cobbs Creek Park and is adjacent to SEPTA's 69th Street Terminal. The route would continue as a roadway into Philadelphia and as a corridor into Chester County.

Conestoga Road (Chester County to Montgomery County)
This route runs near SEPTA's Garrett Hill and Rosemont Stations.

Rt. 320 (Rt. 291 to the P&W Trail)

Adjacent to SEPTA's Springfield Mall Station, this primary route runs through Chester City and Swarthmore along Villanova University.

King of Prussia/Radnor-Chester Roads (Montgomery County to Conestoga Road)

This route passes through a small portion of Tredyffrin Township in Chester County before reaching Montgomery County.

Bishop Garett Road (West Chester Pike to Baltimore Pike)

Goshen Road/Bryn Mawr Av. (Rt. 252/Rt. 3 to Rt. 30)

These two roads combine and continue to Rt. 30 in Montgomery County.

Baltimore Pike (U.S. 1 to Philadelphia County)

This route is adjacent to Elwyn Institute, Swarthmore and Morton Boroughs. It runs through Media, Clifton Heights and Lansdowne Boroughs and is adjacent to 10 SEPTA Stations near Media and one in Lansdowne. It links up with the proposed Cobbs Creek Bikeway. Six major employers are located along this route.

U.S. 1/State Road (I-476 to Philadelphia County)

This route terminates at Cobbs Creek and Rose Tree Parks and links up with the proposed Cobbs Creek Bikeway.

Cheyney Road (Concord Road to Chester County)

This route runs by Delaware County Prison and Newlin Mill Park. It also runs adjacent to Cheyney University. This project connects with the Concord Road Sidewalk Improvements, a programmed TIP project, and the proposed off-road rail trail into Chester County.

Elwyn/ Glen Riddle/ Parkmount/ Team/ Mount/ New/ and Lenni Roads/Berney Hwy/Bodley/Valley Brook/Foulk Roads (Rt. 261) (Baltimore Pike to Delaware State Line)

This route passes through Chester Heights Borough.

Concord Road (Rts 1/322(Baltimore Pike) to Commodore Barry Bridge)

This route connects to Chester City. This project connects with the Concord Road Sidewalk Improvements, a programmed TIP project.

Rt. 352 (Rt. 926 to Rt. 291)

Llewellyn/Valley Brook/Smith Bridge Roads (Delaware State Line to Lenni Road)

This route initiates in Chester Heights Borough and continues through Concord and Birmingham Townships to the Delaware State Line.

Rt. 291 (Delaware State Line to Philadelphia County)
This primary route passes through Chester City, adjoining several SEPTA train stations, and is adjacent to John Heinz National Environmental Center.

Rt. 261 (Delaware State Line to Smithbridge Road)

Providence Road (Gradyville Road to Rt. 252)

Bishop Hollow Road (Rt. 3 to Ridley State Park)

Brookhaven Road (Rt. 352 to Rt. 252)
This route runs adjacent to Brookhaven and Rose Valley Boroughs.

Rt. 452/Chester Creek Road/Duttons Mill Road (Rt. 352 to Concord Road)
A portion of this route is off-road. This project connects with the Concord Road Sidewalk Improvements, a programmed TIP project.

2. Off-Road

P&W Trail (Sugartown Road to Radnor/Chester Road)
This primary route connects to Encke Park via a rail right-of-way.

Chester Creek Branch Trail (Lenni to Upland)
This route would connect the Camp Upland County Park near I-95 with the Lenni Mills area and SEPTA's R3 Line. It is approximately 5.9 miles long.

Octoraro Trail (Rt. 100 to Wawa)
This route connects the historic Chadds Ford area with Painters Crossroads Activity Center and rapidly developing Concord Township and Chester Heights Borough.

Newtown Trail (Rt. 252 to Philadelphia County)
This route would connect the funded Cobbs Creek Trail Project with Upper Darby, Haverford and Newtown townships. The route terminates at Cobbs Creek Park and near Ridley Creek Park.

3. Corridors

Rt. 420 (Rt. 320 to Rt. 13)
This corridor is adjacent to SEPTA's Woodland Av. - Light Rail Station and Prospect Park Station. The corridor is adjacent to Morton Borough and runs through Prospect Park Borough.

Rt. 322/202/Rt. 1 (Chester County to Delaware State Line)

The 322/202 corridor has been identified as a route which could provide bicyclists access to a number of employers and shopping centers. Because of high traffic volume along this route, access for bicyclists may be more appropriate if constructed along a parallel route.

Haverford Road (Montgomery County to Philadelphia County)

This corridor passes Haverford College and runs parallel to SEPTA's light rail line, and its various stations. A portion of this road enters Montgomery County.

U.S. 1/Township Line Road (State Rd to Philadelphia County)

This corridor is adjacent to three golf courses and terminates at Cobbs Creek.

Swarthmore Av./Morton Av./Franklin Av./Providence Road (Rt. 13 to Lansdowne Av.)

This corridor runs through Ridley, Morton, Aldan and Yeadon Boroughs, and is adjacent to Rutledge Borough. This corridor is also near Taylor Hospital, SEPTA's Morton Station and Providence Road-Light Rail Station.

MacDade Blvd. (Rt. 13 to Rt. 320)

This is a corridor that runs through Collingdale, Glenolden and Chester City Boroughs and is adjacent to SEPTA's Collingdale-Light Rail Station and near Fitzgerald Mercy Hospital and Widener University.

Rt. 13 (Philadelphia County to Chester City)

This corridor runs through Yeadon, Darby, Collingdale, Sharon Hill, Folcroft, Glenolden, Norwood, Prospect Park, Ridley Park and Eddystone Boroughs and Chester City. This corridor also runs close to Widener University.

Darby Road/Lansdowne Av. (Rt. 320 to Rt. 13)

Oak Lane/Primos Av./Hook Road (Baltimore Pike to Philadelphia County)

This corridor is adjacent to SEPTA's Primos and Sharon Hill Stations and Folcroft Industrial Park, as well as Clifton Heights, Aldan, Collingdale, Glenolden and Sharon Hill Boroughs.

MONTGOMERY COUNTY

1. Roadways

Sanatoga/Pleasant View Road (Swamp Pike to Schuylkill River Trail)

This route connects the primary Ridge Pike route to the primary Schuylkill River Trail route and makes a connection to the residential areas along Swamp Pike.

Rt. 663 (Bucks County to Chester County)

This route passes through Green Lane Reservoir Park with links to municipal trails and a connection to the Schuylkill River Trail, a programmed TIP project, via Hanover St. in Pottstown.

Lewis/Linfield Roads (Schuylkill River Trail to Ridge Pike)

This route links two primary routes.

Neiffer Road (Rt. 73 to Yerger Road)

This route provides a connection between the primary route 73 and the Sunrise Mill Historic Site.

Rt. 202 (Rt. 309 to Bucks County)

State Game Farm Road (Neiffer Road to Rt. 29)

This route runs through the Eastern State Game Farm and terminates in Schwenksville Boro. The route makes a diagonal link between two primary routes, Ridge Pike and the Perkiomen Trail.

Neiffer/Yerger/Delphi Roads (Ridge Pike to Rt. 73)

This route provides a link to the Sunrise Mill County Historic Site from the primary route 73.

Rt. 73 (Rt.113 to Philadelphia County)

This primary route runs through Evansburg State Park, Fort Washington State Park, Wissahickon Valley County Park, and connects with the proposed Liberty Bell Trail, and the Cross County Trail, a proposed primary route. It also makes connections between major County employers and residential generators.

Rt. 73 (Berks County to Rt. 113)

This route extends the primary route 73 westward to Berks County.

Swamp Pike (Rt. 73 to Ridge Pike)

This route links two primary routes.

Ridge Pike (Rt. 100 to Philadelphia County)

This primary route runs through Evansburg State Park, Pottstown, Trappe, Collegeville and Norristown Boroughs, and near Ursinus College. It is a County route south of the PA Turnpike to Philadelphia. It makes major linkages for large employment and residential generator areas and would link to the proposed Perkiomen Trail, the Cross County Trail, the Liberty Bell Trail, The Plymouth Trail, a programmed TIP project, and the Evansburg Trail.

Rt. 29 (Berks County to Ridge Pike)

This route runs from Berks County through East Greenville, Pennsburg, Red Hill, Green Lane, Schwenksville and Collegeville Boroughs and links primary routes 73 and Ridge Pike. It connects the County's Green Lane Reservoir Park, Upper Perkiomen Valley Park, Central Perkiomen Valley Park and the Pennypacker Mills Historic Site. It also connects to the Perkiomen Trail, a primary route. A small portion is a primary route from Rt. 63 to the Perkiomen Trail.

Rt. 29 (Ridge Pike to Schuylkill River Trail)

This primary route connects two primary routes, Ridge Pike and the Schuylkill River Trail. Two major employers are located on this route.

Germantown Pike (Ridge Pike to Philadelphia County)

This county route runs through Evansburg State Park and connects with the proposed Plymouth and Whitemarsh Township bicycle networks and the proposed Liberty Bell Trail and Plymouth Trail, a programmed TIP project.

Rt. 113 (Perkiomen Trail/Rt. 29 to Chester County)

This route connects to primary routes, the Perkiomen Trail and the Schuylkill River Trail.

Rt. 113 (Perkiomen Trail/Rt. 29 to Bucks County)

This primary route connects the primary routes, Perkiomen Trail and Rt. 63 to Bucks County. This route connects with Lower Salford and Franconia Township's proposed trail system. Four large employers are located along this route.

Township Line Road (Rt. 73 to Schuylkill River Trail)

This route runs through Royersford Borough and connects with the proposed Schuylkill River Trail in Chester County, a programmed TIP project. It connects two primary routes, Rt. 73 and the Schuylkill River Trail.

Sumneytown Pike/Norristown Road/Rt. 463 (Rt. 63 to Rt. 611)

This county route runs through North Wales Borough and along Willow Grove Naval Air Station. It connects with Horsham Township's proposed trail network and Montgomery County's proposed Power Line Trail and Liberty Bell Trail. This is a county route from Rt. 63 to Rt. 309. Four large employers are located along this route. Sumneytown Pike between Rt. 202 and 309 is a primary route.

Allentown Road (Bucks County to Sumneytown Pike)

This route provides a connection to trail networks proposed by Franconia Township, Towamencin Township and the Liberty Bell Trail in Upper Gwynned. Four large employers are located along this route. It links the primary routes, Rt. 63 and Rt. 363.

Rt. 63 (Rt. 29 to Philadelphia County)

This primary route connects the Perkiomen Trail, a primary route, at Green Lane Borough to Northeast Philadelphia. It is a major north south connector which links to the proposed Liberty Bell Trail, the Cross County Trail, and passes through the Borough of Lansdale and the proposed Kulpsville town center. It also connects to the Lower Salford Trail system and the proposed Abington Township trail system. Nine large employers are located along this route.

Forty Foot Road/Rt. 463/Unionville Pike (Rt. 63 to Bucks County)

This primary route connects Rt. 63, a primary route to Rt. 309/County Line Road, which is also a primary route.

Old Forty Foot/Clemens Mill/Wambold Roads (Rt. 73 to Rt. 63)

This route connects two primary routes, Rt. 63 and Rt. 73, as well as the Evansburg Trail and the Towamencin Trails/Kulpsville town center.

Krieble/Morris Roads (Old Forty Foot Road to Rt. 309/Bethlehem Pike)

This route runs adjacent to Evansburg State Park and Fort Washington State Park.

Rt. 363 (Rt. 63 to Schuylkill River Trail)

This primary route runs through Lansdale Borough and connects to the County's proposed Liberty Bell Trail. Three large employers are located along this route. The route also connects with the Schuylkill River Trail, a programmed TIP project.

Evansburg Road (Ridge Pike to Rt. 73)

This route connects two primary routes, Ridge Pike and Rt. 73. It runs adjacent to Evansburg State Park.

Creamery/Kratz/Stump Hall/Township Line/Norristown Roads (Butler Pike to Bridge Rd.)

This route passes through Evansburg State Park and links to the residential areas around Norristown Borough and in Whitpain Township.

Whitehall Road/Schuylkill Av. (Rt. 73 to Schuylkill River Trail)

This route makes a connection between two primary routes, Rt. 73 and the existing Schuylkill River Trail.

Paper Mill Road (Rt. 73 to Rt. 309/Bethlehem Pike)

This route links two primary routes.

Bethlehem Pike (Sumneytown Pike to Philadelphia County)

This primary route passes through Fort Washington State Park and Ambler Borough. It connects with the County's proposed Cross County Trail and the Wissahickon Trail. It passes through important employment and residential areas.

County Line Road (Allentown Road to Philadelphia County)

This route runs along Graeme State Park. Three large employers are located along this route. The route passes through Hatboro, Souderton and Telford Boroughs and crosses the County's proposed Cross County Trail and Liberty Bell Trail.

Bethel/West Point Pike (Rt. 73 to Rt. 63)

This route links two primary routes, Rt. 73 and Rt. 63 through the village of West Point.

Penllyn/Blue Bell Pike (Rt. 309/Bethlehem Pike to Stenton Av.)

This route connects the primary route 309 to Stenton Av. for a connection to the City of Philadelphia. It passes through the employment and residential center of Blue Bell in Whitpain Township.

Rt. 202 (Bucks County to Schuylkill River Trail)

This primary route (including Upper State Road) runs through Norristown Borough and connects with the County's proposed Power Line Trail and Liberty Bell Trail. Eight large employers are located along this route, as well as a major residential area. It connects to the Schuylkill River Trail, a programmed TIP project.

Susquehanna Road (Tennis Av. to Rt. 232)

This route connects the primary routes, Butler Pike, Rt. 611, and the County's proposed Cross County Trail.

Tennis Av. (Susquehanna Road to Rt. 309/Bethlehem Pike)

This short route makes a critical connection between the primary route 309 and Susquehanna Road for an eastern connection to Abington.

Stenton Av. (Penllyn Blue Bell Pike to Northwestern Av)

This route connects Whitpain business campuses through the Fort Washington State Park and County's Wissahickon Park to the Wissahickon Trail and Fairmount Park. It crosses the County's proposed Cross County Trail and Wissahickon Trail.

Stenton Av. (Northwestern Av (or Wissahickon Trail) to Rt. 309/Bethlehem Pk.)

This primary route links the Wissahickon Trail, a primary Rt., to Bethlehem Pike, a primary route.

Cheltenham Av. (Philadelphia to Paper Mill Road)

This is an east west route between Montgomery County and Philadelphia.

Ogontz Av (Rt. 73 to Rt. 73)

This route makes a diagonal link between the two parts of Rt. 73, a primary route.

Tookany Creek Parkway (Rt. 73 to Cheltenham Av)
This route links a primary route, Rt. 73 with Cheltenham Av.

Willow Grove Av (Edgehill Road to Stenton Av)
This route crosses Rt. 73 and links to Stenton Av., two primary routes.

Edgehill Road (Rt. 63 to Rt. 73)
This route links two primary routes.

Walton Road (Penllyn Blue Bell Pike to Germantown Pike)
This route links a large employment center to the Plymouth Meeting Mall area, via Germantown Pike.

Park Av./Pawlings Road (Ridge Pike to Chester County)
This route connects the primary route, Ridge Pike to the Schuylkill River Trail, a programmed TIP project, in Valley Forge National Historic Park. In Chester County, it connects with Rt. 23.

Butler Pike (Rt. 152 to Schuylkill River Trail)
This primary route is adjacent to the Temple University Ambler Campus and SEPTA's Ambler and Conshohocken Stations. It runs through Ambler and Conshohocken Boroughs. It also makes connection with the Schuylkill River Trail and the Plymouth Trail, programmed TIP projects, and the County's proposed Cross County Trail and Wissahickon Trail. Two large employers are located along this route.

Matson Ford Road (Rt. 320 to Schuylkill River Trail)
This primary route connects Butler Pike, a primary route, to Rt. 320, also a primary route.

Rt. 23 (Chester County to Philadelphia County)
This route runs near SEPTA's Norristown, Bala and Cynwyd Stations and the Norristown High-Speed Line. This route connects with the Schuylkill River Trail in Norristown and Conshohocken Boroughs and to the proposed Cross County Trail and the Plymouth Trail, both programmed TIP projects. The route runs through Valley Forge National Historic Park where it also connects to the Schuylkill River Trail, a programmed TIP project.

Egypt Road (Ridge Pike to Rt. 29)
This route links two primary routes, Ridge Pike and Rt. 29. It passes adjacent to the County's Audubon Sanctuary at Mill Grove and its Lower Perkiomen Valley Park. It also passes a municipal golf course and swimming pool.

Morris Av. (Spring Mill Road to Delaware County)

This route makes a connection to a primary route, Montgomery Av.

North Gulph Rd./South Gulph Rd./Old Gulph Rd./Montgomery Av (Schuylkill River Trail/Rt 23 to Philadelphia County)

This primary route connects Valley Forge National Historic Park to Philadelphia through Upper and Lower Merion Townships. It connects with the Schuylkill River Trail in Valley Forge, programmed TIP project.

Mill Creek Road (Rt. 23 to Montgomery Av.)

This route follows the Mill Creek and connects Rt. 23 to Montgomery Av.

Spring Mill Road (Delaware County to Rt. 23)

This is a route which crosses Old Gulph Road, a primary route.

Barren Hill Road (Hector St. to Harts Lane)

This route connects Barren Hill to the Schuylkill River Trail, a programmed TIP project.

Lancaster Av./Rt. 30 (City Line Av. to Morris Road)

This route passes through employment and residential centers as well as passing near Villanova, Bryn Mawr and the Haverford School. Two major employers are located along this route.

County Line Rd. (Lancaster Av./Rt. 30 to Delaware County)

This short route in Montgomery County connects Rt. 30 to Haverford Av.

Joshua Road/Lafayette Av./Ft. Washington Av (Rt. 152 to Cedar Grove Road)

This route passes through the Fort Washington State Park. It crosses the County's proposed Cross County Trail and Wissahickon Trail and connects to the Schuylkill River Trail, a programmed TIP project.

Cedar Grove Road/Hector St. (Joshua Road to Schuylkill River Trail)

This route connects to the Schuylkill River Trail, a programmed TIP project.

Harts Lane (Barren Hill Road to Germantown Pike)

This short route connects Germantown Pike to the Schuylkill River Trail, a programmed TIP project, via Barren Hill Road.

Rt. 611 (Rt. 263 to Philadelphia County)

This primary route passes through densely populated areas and employment centers, including the Borough of Jenkintown. The route runs by the Willow Grove and Noble train stations.

Rt. 611 (Rt 263 to Bucks County)

This route passes through densely populated areas and employment centers and runs by the Willow Grove Naval Air Station.

Rt. 263 (Rt. 611 to Bucks County)

This primary route passes through Hatboro Borough. The trail networks proposed by Montgomery County intersects this route, including the Cross County Trail, a primary route. Six large employers are located along this route.

Horsham Road (Rt. 611 to Rt. 263)

This route makes a diagonal connection between Rt. 263, a primary route, and Rt. 611.

Rt. 332/Warminster Road (Bucks County to Rt. 263)

This primary route is near SEPTA's Hatboro and Willow Grove stations, and runs through Hatboro Borough, connecting into Bucks County.

Rt. 232 (Bucks County to Philadelphia County)

This route passes through Bryn Athyn Borough, and is adjacent to Holy Redeemer Hospital and SEPTA's Bethayres Station. Abington Township's proposed trail network intersects this route. Two large employers are located along this route. The route intersects with the County's proposed Newtown Greenway Trail.

Rt. 152 (Bucks County to Philadelphia County)

This route runs near the Temple University Ambler campus, Dillon Township Park, and SEPTA's North Hills Station. It also provides connection to the County's proposed Cross County Trail and Power Line Trail, as well as Horsham Twp's proposed bicycle network. Three large employers are located along this corridor.

2. Off-Road

Perkiomen Trail (Rt. 29 in Green Lane Borough to Schuylkill River Trail)

This proposed off-road primary route parallels Rt. 29 for most of its distance north of Collegeville and utilizes an abandoned rail right of way. It connects to the Schuylkill River Trail, a programmed TIP project, in Oaks. Three large employers are located along this route.

Perkiomen Trail (Green Lane Borough to Pennsburg Borough)

This proposed off-road route connects the population centers of Green Lane Borough and Red Hill and Pennsburg Boroughs. It would be built on an abandoned rail right of way and would be essential in the creation of a greenway along the Macoby Creek in Marlborough Township. If built, it would connect to the Perkiomen Trail at Rt. 29, a primary route.

Cross County Trail (Bucks County to Chester County)

This proposed on and off-road primary route connects the Chester Valley Trail, existing Schulykill River Trail, the Plymouth Trail, Wissahickon Trail and Newtown Greenway Trail and parallels the east/west PA Turnpike. It passes adjacent to the King of Prussia and Plymouth Meeting Malls and connects with the Valley Forge Park trail system as well as the Fort Washington State Park trail system. It connects employment, residential and park generators in the County.

Schuylkill River Trail (Betzwood to Rt. 29 and Sanatoga to Berks County)

The Schuylkill River Trail to Mont Clare is an off-road primary route and is a programmed TIP project. This trail connects to the existing Schuylkill River Trail Betzwood Bridge trail, the Plymouth Trail and the Chester Valley Trail, all TIP projects.

Evansburg Trail (Arcola to Schwenksville)

This proposed off-road trail links Evensburg Park with other smaller parks, and the proposed Perkiomen Trail. This route connects with the Schuylkill River Trail, a programmed TIP project, via the Perkiomen Trail and connects to municipal trails in Lower Providence, Worchester, Towamencin and Lower Salford Townships and would utilize the existing Evansburg Park trails.

Sunrise Trail (Schwenksville Borough to Sunrise Mill Historic Site)

This proposed off-road route runs along the Swamp Creek and connects county parks and historic sites as well as the Perkiomen Trail.

Liberty Bell Trail (Schuylkill River Trail to Bucks County)

This on and off-road proposed trail route would utilize the corridor and route of the old trolley line which connected Norristown to Allentown. It has the potential to link Norristown's Elmwood Park, the County's Norristown Farm Park to various municipal parks and trails between Norristown and Souderton. It would also link to the Schuylkill River Trail and the Chester Valley Trail, two programmed TIP projects.

Wissahickon Trail (Fort Washington Park to Upper Gwynedd Township)

This proposed off-road route would link the Cross County Trail to the Liberty Bell Trail and would be a unifying element connecting the preserved lands along the Wissahickon.

Wissahickon Trail (Philadelphia to Fort Washington)

This proposed off-road primary route connects the City of Philadelphia's Fairmount Park to the Cross County Trail along the Wissahickon Creek. It would become the unifying element in the park and open space land which is already preserved along the creek.

Power Line Trail (Rt. 63 to the Wissahickon Trail)

This proposed on and off-road trail route would utilize the Horsham Township PECO corridor trail with other utility corridors for a link between the Liberty Bell Trail/Wissahickon Trail and the Cross County Trail at Rt. 63.

Newtown Greenway Trail (Bucks County to Philadelphia County)

This proposed off-road primary route connects the Philadelphia's Pennypack Park to the County's Lorimer Park and the Cross County Trail. It could parallel the revitalized SEPTA R8 line, either at the edge or adjacent to the right-of-way, and could be the unifying element for the Pennypack Greenway open space.

3. Corridors

Rt. 100 (Berks County to Pottstown)

This corridor passes through Pottstown Borough where it connects to the Schuylkill River Trail, a programmed TIP project.

Rt. 422 (Sanatoga to Oaks)

This is a corridor that terminates at the Perkiomen Trail, a primary route, and the Sanatoga area which makes a connection to the Schuylkill River Trail, a primary route and programmed TIP project.

Rt. 9/Northeast Extension - Pennsylvania Turnpike

This corridor makes a major link between Plymouth Meeting and the upper reaches of the County.

Rt. 309 (Bucks County to Sumneytown Pike)

Rt. 202 (Rt. 309 to Bucks County)

Haverford Av. (Delaware County to Philadelphia County)

PHILADELPHIA COUNTY

(Please note: A detailed bicycle network plan for the City of Philadelphia will be prepared by the City in the coming year. The routes identified here are therefore preliminary and may be subject to change.)

1. Roadways

5th St. (U.S. 1 to Oregon Av.)

6th St. (Hunting Park Av. to Oregon Av.)

29th St. (Hunting Park Av. to Girard Av.)

Belmont Av./45th St. (City Line Av. to Lancaster Av.)

Whitby Av./52nd St./Parkside (Baltimore Pike to Girard Av.)

Haverford Av. (City Line Av. to 33rd St.)

Germantown Av. (Broad St. to Montgomery County)

Wayne Av. (Lincoln Dr. to Hunting Park Av.)

Lincoln Dr. (Allens Lane to Kelly Dr)
This route terminates near the Wissahickon Valley Trails and the Fairmount Park Trails, which are part of the Schuylkill River Trail. This route incorporates the Fairmount Park Trails, a programmed TIP project.

Ridge Av. (Montgomery County to Race St.)
This route connects with proposed Wissahickon and Manayunk Connector and the Fairmount Park Trails, a programmed TIP project.

Henry Av. (Ridge Av. to Hunting Park Av.)

Chew/Olney Av. (Mount Airy Av. to Rising Sun Av.)

Rising Sun Av. (Cottman Av. to Roosevelt Blvd)
This route connects with the proposed Roosevelt Connector.

Rhawn St. (Oxford Av. to State St.)
This route connects with the proposed Roosevelt Connector.

U.S. 1 (Bucks County to Broad St.)

Adams Av. (Cresentville Road to Roosevelt Blvd)
This route connects with the proposed Roosevelt Connector.

Whitaker Av. (Roosevelt Blvd. to Allegheny Av.)

Girard Av. (Lancaster Av. to I-95)
This route connects with the proposed Fairmount Av. to Columbia Av. Bike Lane along the Christopher Columbus Blvd.

Upsal St./Greene St. (Washington La./Greene St. to Montgomery County)

Washington Lane (Montgomery County to Wayne Av.)

Allens Lane/Mt Airy Av./Easton Road/Wadsworth Av. (Montgomery County to Wissahickon Av.)

Wissahickon Av. (Allens Lane to Hunting Park Av.)

Willow Grove Av./Valley Green Road (Wissahickon Creek to Montgomery County)

Queen Lane (Germantown Av. to Ridge Av.)
This route connects with a programmed TIP project.

Roberts Av. (Roosevelt Expressway to Henry Av.)

Hunting Park Av. (Kelly Drive to Roosevelt Blvd)
This route connects with the proposed Roosevelt Connector.

Allegheny Av. (Ridge Av. to Delaware Av.)

Castor Av. (Bustleton Av. to Delaware Av.)
This route connects with the proposed Roosevelt Connector.

Lehigh Av. (Ridge Av. to I-95)

Dauphin St. (Ridge Av. to Aramingo Av.)

Columbia/Cecil B Moore Av. (33rd St. to Delaware River)
This route connects with the proposed Fairmount Av. to Columbia Av. Bike Lane along the Christopher Columbus Blvd.

Erie Av./Torresdale Av. (Hunting Park to Convent Av.)

Aramingo Av./Harbison Av. (Girard Av. to Roosevelt Blvd.)

Frankford Av. (Girard Av. to Levick St.)
This route connects with the proposed Lower Pennypack Park Connector.

Oxford Av./Cheltenham Av. (Montgomery County to Torresdale Av.)
This route connects with the proposed Roosevelt Connector.

Levick St. (Rising Sun Av. to I-95)
This route connects with the proposed Roosevelt Connector.

Rt. 73 Cottman Av. (Montgomery County to I-95)
This route connects with the proposed Roosevelt Connector.

Richmond St./Delaware Av. (Oregon Av. to Bridge St.)

Veree Road (Bustleton Av. to Oxford Av.)

Tacony St. (Bridge St. to Torresdale Av.)

Fairmount Av. (Broad St. to Pennsylvania Av.)

Spring Garden St. (Delaware Av. to Pennsylvania Av.)
This route connects with the proposed Schuylkill River Park trail system. This route connects with the Fairmount Park Trails, a programmed TIP project.

Arch Street (Front to 16th Streets)

Market Street (Front to Broad Streets)
This route connects with the proposed Christopher Columbus Blvd. connector.

Market Street (30th to 63rd Streets)
This route connects with the proposed Fairmount Waterworks to Schuylkill River Park trail system, the Schuylkill River Trail, a programmed TIP project, and the Cobbs Creek Bikeway and Westbank Greenway, which are programmed TIP projects.

JF Kennedy Blvd. (Broad to 30th Streets)
This route connects with the Schuylkill River Trail, a programmed TIP project.

Chestnut Street (Front to 63rd Streets)
This route crosses the proposed Columbus Blvd. connector and connects with the proposed Fairmount Waterworks to Schuylkill River Park trail system. This route connects with the Schuylkill River Trail, the Cobbs Creek Bikeway and Westbank Greenway, which are programmed TIP projects. It is a primary route from Broad St. to Delaware County.

Walnut Street (Front to 63rd Streets)
This route crosses the proposed Columbus Blvd. connector and connects with the proposed Fairmount Waterworks to Schuylkill River Park trail system, the Schuylkill River Trail, the Cobbs Creek Bikeway and Westbank Greenway, which are programmed TIP projects. It is a primary route from Broad St. to Delaware County.

Woodland Av./38th St. (Chestnut/Walnut Streets to Delaware County)
This primary route connects southwest Philadelphia with Delaware County and provides a connection to the Cobbs Creek Bikeway, a programmed TIP project.

South/Spruce Streets/Baltimore Av. (Front St. to Delaware County)
This route crosses the proposed Schuylkill River Park to Bartram's Gardens trail and the Columbus Blvd. connector. This route connects with University City and a programmed TIP project, the Cobbs Creek Bikeway.

Whitby Av. (Baltimore Av. to Delaware County)
This project connects with the Cobbs Creek Bikeway, a programmed TIP project.

Elmwood Av. (Delaware County to Lindbergh Blvd)
This project connects with the Cobbs Creek Bikeway, a programmed TIP project.

Lindbergh Blvd/Grays Ferry Av./40th St. (Island Av. to Woodland Av.)

Snyder Av. (Vare to Front Streets)

Oregon Av. (Columbus Blvd. to Broad St.)
This primary route crosses the proposed Columbus Blvd. connector.

Penrose Av./Moyamensing Av. (Broad St. to airport)

Passyunk/Essington/Tinicum Aves (Broad St. to 84th St.)
This project connects with the Cobbs Creek Bikeway, a programmed TIP project.

84th St. (Delaware County to Tinicum Av.)
This project connects with the Cobbs Creek Bikeway, a programmed TIP project.

Bartram Av. (Delaware County to 84th St.)
This project connects with the Cobbs Creek Bikeway, a programmed TIP project.

Island Av. (Woodland Av. to Delaware County)
This project connects with the Cobbs Creek Bikeway, a programmed TIP project.

Knights Road (Frankford Av. to Bucks County)

Academy Road (Knights Road to I-95)

Welsh Road/Willits Road (Montgomery County to Torresdale Av.)

Grant Av. (Welsh Road to Torresdale Av.)

Holmes Av./Linden Av. (U.S. 1 to State Road)

State Road (Longshore Av. to Bucks County)
This route connects with the proposed Lower Pennypack Park Connector.

26th Street (Passyunk Av. to Penrose Av.)

Grays Ferry (Woodland Av. to Spruce St.)

Willow Grove Av. (Germantown Av. to Montgomery County)

25th/26th Streets (Fairmount Av. to Girard Av.)

Hog Island Road (Penrose Av. to Delaware County)
This project connects with the Cobbs Creek Bikeway, a programmed TIP project.

Kelly Drive (Art Museum to Ridge Av.)
This route parallels the existing Fairmount Park bikepaths.

West River Drive (Art Museum to Falls Bridge)
This route parallels the existing Fairmount Park bikepaths.

Cheltenham Av. (Montgomery County to Crescentville Road)
This route is adjacent to the Cedarbrook and Cheltenham Shopping Malls.

Crescentville Road (Godfrey Av. to Cheltenham Av.)
This route is along Tacony Creek.

Walnut Lane (Ridge Av. to Germantown Av.)
This route crosses over Wissahickon Creek in Fairmount Park.

Lancaster Av. (Montgomery County to Market St.)

Baltimore Av. (Delaware County to 38th St.)
This route connects Cobbs Creek Park with University City.

Bustleton Av./Bridge St. (Richmond St. to Bucks County)
This is a primary route from Bucks County to the Delaware River Corridor.

Port Royal Av./Ridge Av./Bells Mills Road (Schuylkill River Trail to Wissahickon Trail)
This is a primary route that extends from Montgomery County to connect to the Schuylkill River trail via Nixon Rd. and to the Wissahickon Trail.

2. Off-Road

Cobbs Creek Bikeway N (Woodland Av. to City Line Av.)
This primary off-road route passes the 63rd St. Market-Frankford Station and runs through Cobbs Creek Park. This is a programmed TIP project.

Schuylkill River Park (Spruce St. to the Art Museum)
This is an off-road route between the Schuylkill River and CSX right-of-way. This route connects with the Fairmount Park Trails and incorporates two Schuylkill River Trail projects, which are programmed on the TIP. This project connects with the Westbank Greenway, a programmed TIP project.

Tacony Creek (Montgomery County to Castor Av.)
This route connects to existing trails along Tacony Creek.

3. Corridors

Rt. 611 Broad St. Corridor(Montgomery County to I-95)
This primary corridor connects with the proposed Roosevelt Connector.

Cobbs Creek Bikeway S (Woodland Av. to Delaware River)
This is a primary corridor that passes through Cobbs Creek Park. This is a programmed TIP project.

Stenton Av./Godfrey Av. (Northwest Avenue to Crescentville Av.)
This is a primary corridor running from Northwest Avenue in Montgomery County and links to Broad St. This corridor also serves as the dividing line between Philadelphia and Montgomery Counties.

Delaware River Corridor (Bucks County to Delaware County)
This primary corridor runs along Philadelphia's entire Delaware River waterfront.

Woodhaven Road - Rt. 63/Byberry Road (Bucks County to Montgomery County)
This is a corridor along Woodhaven Road.

City Line Av. (Montgomery Av. to Cobbs Creek Bikeway N)
This is a primary corridor west of Montgomery Av. and connects with a programmed TIP project, the Cobbs Creek Bikeway.

City Line Av. (Montgomery Av. to Ridge Av. and Schuylkill River Trail)
This is a primary corridor east of Montgomery Av. and provides a connection to the Schuylkill River Trail via Ridge Av.

APPENDIX B

Southeastern Pennsylvania
Bicycle and Pedestrian Mobility Plan
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APPENDIX C

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APPENDIX D

Glossary of Terms

AADT - average annual daily traffic.

AASHTO Guide - a published set of guidelines by the American Association of State Highway and Transportation Officials that details standards for transportation development.

Accessibility - a measurement of the distance a bicycle facility is from a specified trip origin or destination, ease of travel by bicycle for a specific distance, or the extent to which all likely origins and destinations are served.

Bicycle Facilities - a variety of bicycle access routes such as bike lanes, separate bike paths, or side-street bicycle routes.

Bike Lane - a portion of the roadway designated by striping, signing, and/or pavement markings for preferential or exclusive use of bicycles (5 feet wide/direction of travel by AASHTO guidelines).

Bikeway - any road, path, or right-of-way which is specifically designated as being open to bicycle travel, regardless of whether such facilities are designated for the exclusive use of bicycles or are to be shared with other transportation modes.

Class I Bikeway or Exclusive Bikeway - a completely separate right-of-way solely for the use of bicycles.

Class II Bikeway or Shared Bikeway - a bicycle right-of-way which is shared with other forms of transportation in which the cyclist is protected from motor vehicle conflicts by physical barriers.

Class III Bikeway or Bike Route - the right-of-way is shared by the cyclist and other vehicles and is designated by signing only.

Clean Air Act Amendments - the 1990 revision of the 1970 law detailing the National Air Pollution Control Program. Also stipulates that the Transportation Improvement Program should not lead to any further degradation of the region's air quality, but should begin to improve the current air quality.

Congestion Mitigation Air Quality - Funding source under ISTEA in which funds are reserved for projects that will contribute to the attainment of National Ambient Air Quality Standards.

Intermodal Surface Transportation Efficiency Act (ISTEA) - the 1991 federal legislation which makes significant changes in the federal transportation programs and affects the intergovernmental relationships in the programming process. ISTEA requires metropolitan planning organizations to develop a long-range transportation plan linking

planning and land use with transportation investment.

Right-of-Way - a general term denoting land, property, or interest therein, usually in a strip, acquired for or devoted to transportation purposes.

Route Attractiveness - factors that affect a route's use such as separation from motorized traffic, visual aesthetics, perceived safety of bicycle riders.

Separate Bike Path - a facility physically separated from motorized vehicle traffic by an open space or barrier and intended for bicycle use (10 feet wide for two lanes of travel by AASHTO guidelines).

Shared Lane - shared motor vehicle/bicycle use of a "standard"-width travel lane. Shared lanes, with no special provision for bicyclists, typically have 12 foot lane widths or less with no shoulders, and this means that motorized vehicles (e.g. cars) can only pass safely by crossing over the center line of the road or into the oncoming traffic lane.

Shoulder - a portion of the roadway to the right of the edge stripe designed to serve bicyclists which should be at least 4 feet wide (AASHTO guidelines) to accommodate bicycle travel.

Sight Distance - the distance a bicyclist or motor vehicle operator can see ahead of them which will influence their ability to avoid a collision with another bicyclist or motor vehicle.

Traffic Mix - the total grouping of a variety of motorized vehicles such as trucks, buses, and recreational vehicles which make up road/area traffic.

Transportation Improvement Program (TIP) - the culmination of the transportation planning process which represents a state and regional consensus as to what regional improvements should be made. The TIP is guided by ISTEA federal law of 1991.

Uniform Vehicle Code - the standards for traffic regulations recommended for adoption by state and local jurisdictions, as prepared by the National Committee on Uniform Traffic Laws and Ordinances.

Wide Outside Lane or Wide Curb Lane - an outside travel lane with a width of at least 14 ft. which uses the minimum width of travel lane recommended by AASHTO.